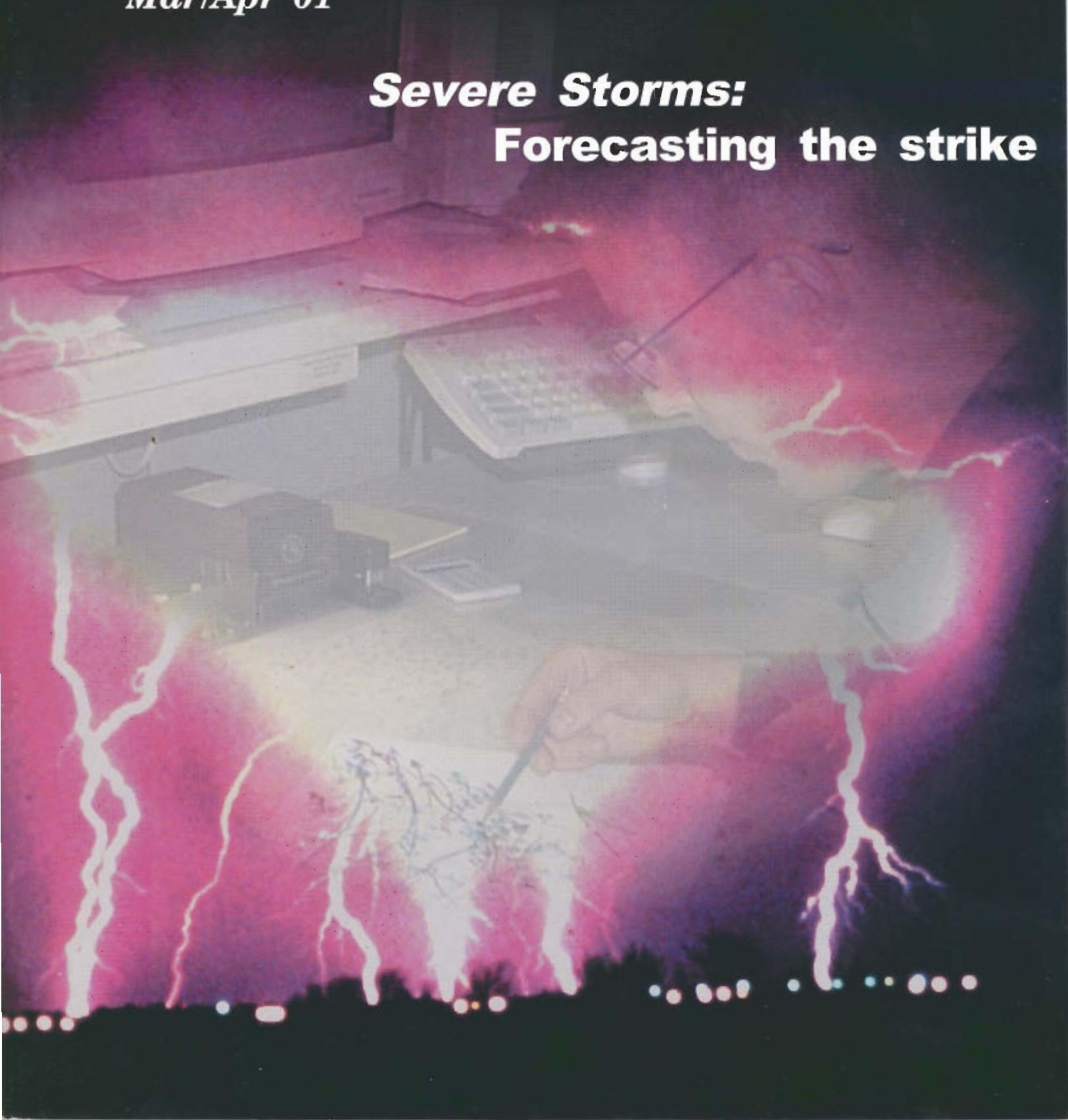


*YOUR MAGAZINE FOR AIR FORCE WEATHER*

# OBSERVER

*Mar/Apr 01*

**Severe Storms:  
Forecasting the strike**





# OBSERVER

**AIR FORCE DIRECTOR OF WEATHER**  
Brig. Gen. David Johnson

**AIR FORCE WEATHER  
AGENCY COMMANDER**  
Col. Bob Allen

**PUBLIC AFFAIRS DIRECTOR**  
Paige Rowland

**PUBLIC AFFAIRS DEPUTY DIRECTOR**  
Jodie Grigsby

**OBSERVER EDITOR**  
Tech. Sgt. Miles Brown

This funded Air Force Weather magazine is an authorized publication for members of the U.S. military services. Contents of the OBSERVER are not necessarily the official view of, or endorsed by, the United States Government, the Department of Defense or the Department of the Air Force. Editorial content edited, prepared and provided by the public affairs office of the Headquarters, Air Force Weather Agency, Offutt AFB, Neb. All photographs are Air Force photographs unless otherwise indicated. All written material and photos to be considered for publication must arrive at HQ AFWA/PA by the first week of the month prior to the month being published. Photos must be mailed to:

**HQ AFWA/PA**  
106 Peacekeeper Dr., Ste. 2N3  
Offutt AFB, NE 68113-4039

Please call (402) 294-3115, or DSN: 271-3115, for more information about this publication. Electronic mail should be addressed to:

**"Observer@afwa.af.mil"**

## Chief's Mentoring

4



**PWWS**

## points way to better weather

6

## "Fraud is...." AFWA IG

7

## AFW's Future: A Chief's Perspective

8



Cover art by Jodie Grigsby. Background photo courtesy of NOAA Photo Library. Shadow image is Tech. Sgt. Jeff Vogel, weather forecaster, Severe Section, AFWA.

**Mass Appeal:  
Meterologist Making Music** 10

**AFW “Storms” web on CNN** 11

**Andersen supports  
civilian weather research** 12



**Heading  
“Down  
Under”** 13

**2000 AFW Annual Winners** 16

**Training for severe weather** 19

**Weather  
Warriors** 25

**Salutes** 26

**Editor’s Record:**

The author of “SPACE WEATHER: On the Eve of the Millennium.” in the Nov/Dec 2000 issue of the *Observer* is Tech. Sgt. Stephen Heywood, 55th SWXS.

The AFWA Operations Analysis Director, Mike Howland (DSN 271-1227), was inadvertently left out of the AFWA organizational chart in the Jan/Feb 2001 Almanac issue of the *Observer*.



## CHIEF'S MENTORING

By Chief Master Sgt.  
Penny Braveman  
Chief Enlisted Manager

**D**oes your unit train you based on your customer's peacetime and/or wartime taskings daily? Are you properly prepared to step in and fill the empty weather technician seat at a hub or Combat Weather Team and provide technical leadership? Has your career path and experiences led you to your next choice for assignment in the Air Force? If you can answer yes to these questions, then you may be prepared to support your customers in this reengineered weather world. If you are not sure, continue to read on to learn how to get yourself prepared to support your customers and your career.

**A**fter Basic Training, the first course most enlisted weather technicians attend is the observing course and the newer accessions, the new Initial Skills Course. The next training step is On-the-Job Training at a field site with a qualified trainer. Prior to reengineering, your certification and upgrade training was hit and miss. If you were lucky, you had a properly trained forecaster and who cared enough to ensure your training was completed

right, and a unit training program that supported airman so everyone was trained right—the first time.

**S**ince weather is seasonal and training methods or techniques are updated constantly, recurring training should be part of your plan for improving technical skills. We rarely use our skills for forecasting thunderstorms during spring snowstorms, so our techniques may get rusty. A little refresher training will keep those forecasting skills honed. In my past experiences, everyone dreads refresher training because we saw the same approach last year. These people may, or may not complete the training if we leave the responsibility up to them. Some trainees completed their recurring forecasting training, but a lot of people pencil whipped the training and took their chances on getting caught. In an effort to prevent pencil whipping, most units held a training seminar session monthly to ensure complete training. Keep in mind that even if you have seen the material before; it never hurts to review the information over and over to help implant it into your mind. Many weather managers will tell you there is no easy answer to this recurring training problem. You must keep abreast of weather and technique changes and develop a plan to learn that works for your schedule.

**W**e also cannot forget the Air Force unique training provided as we grow in our military careers. Professional training is essential to survive and compete with your Air Force counterparts in other specialties. We do no justice for our people if we delay or withhold Professional Military Education. The Air

Force plans the timing of your PME attendance so you can use the skills learned to help you grow in your Air Force career. Airmen Leadership School is one example of PME that comes to mind. Airmen must attend ALS when they are promoted to Senior Airman and can't sew on Staff Sergeant until they complete the course. The course is a month long but most shops can barely get by with one person gone for a week of leave. We must let our people attend including ourselves if the needed PME course comes up! The consequences are severe for missing the opportunity to attend PME - delayed promotions, delayed income, denied reenlistment, etc. Sometime in your Air Force career, your supervisor let you attend PME, so reciprocate the favor for your troops. Always train your replacements and stress the importance of PME at all levels in their Air Force career.

**T**here are now many other opportunities to grow professionally. You can learn vital skills by working with the professional organizations located on your base such as Air Force Sergeants Association, Chiefs Group, Top 3, Rising Four, etc. These groups help you build your working lateral relationships, organizational skills, and communication skills. Lateral relationships are informal internal working groups that enable you to get tasks completed when other roadblocks exist. These relationships may include learning what the base Civil Engineers do and how they can help you, getting a tour of medical group facilities, visiting the dormitories with the First Sergeant, etc. These critical management skills come in handy as you move into leadership positions because you have a better appreciation for why other function's processes are slow and what causes the delays. In the

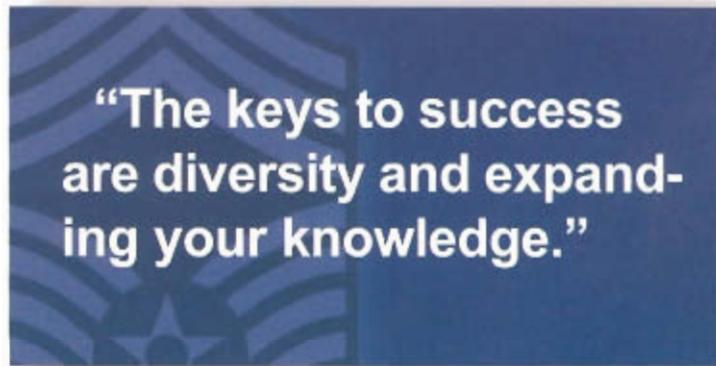
same light, you should be explaining our processes and unit functions to other base operators. Once they learn our processes, the understanding and cooperation between organizations grows.

**O**nce trained, where do you go? As a staff sergeant or technical sergeant, you are eagerly looking for the next stripe, the next challenge, and reengineering offers not only the upper grades opportunities at supervision, but the experienced airman as well. Let me start with a senior airman. After attending the Combat Weather Operations Team Course at Keesler AFB, Miss., your assignment may move you to a Combat Weather Team at an Air Force base or an Army post to utilize the new skills. In a few years, you need to look at moving again to keep broadening the experience base in forecasting in other regions and honing those weather skills.

**W**hen promoted to a staff sergeant and technical sergeant, your assignment possibilities open more and you can now go to a Hub or another Combat Weather Team. Don't forget, there are also some special duty assignments available to you as well such as space forecasting, jump positions, and AFWA. The key to remember is what you do now as a mid-level manager will help make you a senior or chief master sergeant later. Let me explain this statement further. You need to broaden your career by diversifying not only in your career field but also in other military areas. Diversifying can be moving to an Army assignment or a larger weather unit to show you can handle greater

responsibility. Look for tough jobs or the one job no one really wants, and then do the best you can to get your people and unit performing at their peaks and your people promoted. Every position out there is promotable, but the promotion is up to you and your performance.

**W**hat's next? Well a master sergeant should be looking to advance both technically and managerially. A hub or Combat Weather Team NCOIC are assignments which continue to build the background in weather and management skills. In these jobs, you combine the technical



weather skills with the management skills in areas such as budget, manpower, supply, etc. But, there are also positions in MAJCOMs, AFWA, the schoolhouse, and other headquarters to learn and grow new experiences. If you are on a Combat Weather Team, you may consider looking to diversify again and try a hub or one of the other areas and the reverse is true if you are in a hub. If you are at a MAJCOM or one of our unique areas, you may elect to take the experience you learned there and move to a hub or Combat Weather Team. The key to success is to take what you learned from past experiences and use those experiences to help your new unit succeed and excel in all areas.

**O**nce you reach that selected two percent as a senior

master sergeant, you will go to a hub, MAJCOM, AFWA, or other headquarters. Again, like I mentioned above, you must show the increased ability to grow, learn, and utilize past experiences. You should get as many of these experiences as you can before you make chief to help broaden your database for career decisions you make later. With your management skills groomed, you should have gained a broader perspective in your career field and the Air Force.

**F**inally, as a chief master sergeant, you are assigned to a hub, MAJCOM, AFWA, or headquarters. A new chief's first assignment may be at a hub where you can learn manpower, provide guidance to operations and training, learn staff functions, etc. After a hub experience, you may move on to a MAJCOM and work that broader perspec-

tive on similar issues. The area of responsibility is the same except now you work for more than one unit—the Combat Weather Teams and hubs are your units. You also do more lateral coordination with your peers and work issues, both MAJCOM and Air Force. Finally, you should go to a headquarters—Air Staff, AFPC, or AFWA.

**A**s you can see, the road for improving yourself and timely promotions is not easy and it is very challenging. The keys to success are diversity and expanding your knowledge base. Keeping an open mind is helpful, especially when representing your unit and not just your opinion, and integrity will get you a long way. The ball is in your court, go out and make it happen.✍



# PWWS

Photo courtesy of NOAA Photo Library

## Points way to better weather

**By Jennifer Henry**  
System Analyst

The new Point Weather Warning System officially went into service Jan. 2 at the Air Force Weather Agency at Offutt AFB, Neb.

The PWWS, designed by Logicon Sterling Federal Systems in conjunction with AFWA and field units, is used by the CONUS Severe Forecast Operations Section to quickly deliver point weather warnings to field users across the nation. Whether they are sitting at their desk or racing across a training range, a field user is now alerted to a point weather warning more efficiently.

"Point Weather Warnings can now be issued twice as fast as before," said Master Sgt. Charles Elford, chief of CONUS Severe Forecast Operations, AFWA.

The CSFO section forecasts severe weather for more than 350 specific locations across the continental United States. Warnings are issued for tornadoes, thunderstorms, high winds, heavy rain,

heavy snow, and freezing precipitation.

Before development and implementation of the PWWS, field users primarily received these weather warnings from the Automated Weather Network or, in certain circumstances, via a telephone call from the CSFO forecaster. AFWA had an opportunity to leverage modern technology to achieve more efficient and effective point weather warning dissemination.

One of the most significant features of the PWWS is the field user's ability to select the method, or methods, they receive point weather warnings. The system disseminates warnings within seconds of the warning's issuance via a variety of communication systems including:

- Voice Messages
- Telephone or cellular telephone calls
- Text messages
- Fax transmissions
- E-mail messages
- Pager e-mail messages

For example, through the use of cell phones and pagers, field users can have a weather warning delivered to any location, limited only by the range of the phone or pager.

"The system has time saving benefits for the CSFO forecasters that allow them more time to do the job of forecasting instead of disseminating warnings," said Elford.

The PWWS provides a point and click Graphical User Interface for creation of point weather warnings. Instead of typing the point weather warning, as previously required, a forecaster now issues a warning with as few as eight mouse clicks. Another time saver for the forecaster is the automated meteorological verification function. Lead-time, false alarm rate, efficiency, and reliability metrics and more are automatically produced for use in applying attention to tougher forecast challenges. Additionally, weather bulletins are monitored for key phrases associated with severe weather. Bulletins meeting key phrase criteria are flagged for review by the forecasters.

"Time spent on manual record keeping, verification, and databasing has been cut by more than 65 percent, resulting in the forecasters spending more time metwatching and forecasting," said Elford. "Training time has also been reduced by 50 percent because the system GUI is intuitive and is much easier and faster to use."

What does the future hold? The system is being enhanced to disseminate space weather warnings to space customers as the space weather forecasting mission transitions to AFWA.

"We expect to have this capability up and run-

ning by May," said Maj. Jeff Cox, chief of Space Weather Operations, AFWA. "The new system will ensure customers receive space weather warnings via their requested transmission method within the required notification time, as little as five minutes."

Both CSFO and space weather forecasters will be able to issue a warning quickly and the software will disseminate and track the warning. The forecasters will have a status screen to let them know who has and who has not acknowledged receipt of severe and terrestrial warnings.

The PWWS will also be ported into the Operational Weather Squadrons. The challenge is to fit the system into the existing OWS OPS II architecture. This will involve a series of developments over the next three years. These will build upon previous efforts and eventually directly interface the PWWS with the new Tactical Forecast System.

The PWWS benefits will reach military decision-maker needing real-time weather warning products. Fully stated, severe weather affects mission critical decisions and it is imperative point warnings be delivered quickly, accurately, and in a manner most advantageous to the field user. This system meets these needs.

*Anyone with a Point Weather Warnings requirement and access to the Joint Air Force Army Weather Information network at <http://weather.afwa.af.mil> can submit a request to receive PWWS. To receive warnings, fill out the Point Weather Warning subscription form at [http://weather.afwa.af.mil/cgi-bin/pww\\_request.cgi](http://weather.afwa.af.mil/cgi-bin/pww_request.cgi). Requests are forwarded to the current requirements branch of AFWA. ♪*

## By Definition, "Fraud is....."

By Lt. Col. Robert Thorp  
Inspector General, AFWA

There's no two ways about it! Fraud is a violation of both military and civil law. According to AFI 90-301, Fraud is *"any intentional deception designed to unlawfully deprive the Air Force of something of value or to secure from the Air Force for an individual a benefit, privilege, allowance, or consideration to which he/she is not entitled."* Such practices include, but are not limited to:

The offer, payment, acceptance of bribes or gratuities or evading or corrupting inspectors of other officials; making false statements, submitting false claims or using false weights or measures; deceit, either by suppressing the truth or misrepresenting

material facts, or to deprive the Air Force of something of value.

The term also includes conflict of interest cases, criminal irregularities, and the unauthorized disclosure of official information relating to procurement and disposal matters. The definition can include any theft or diversion of resources for personal or commercial gain.

If you become aware of any of these practices, make sure you notify your servicing Inspector General, JAG, or OSI agent. Even if it does not appear to be fraud, one of these offices may want to investigate the practice for other reasons. Taking the proper action to prevent illegal practices is what leadership is all about. ♪



# AFW's future - A Chief's perspective

**Chief Master Sgt. Steven Ruch**  
25th Operational Weather Squadron,  
Davis-Monthan AFB, Ariz.

As my remaining days in the Air Force and Air Force Weather draw to a close, I felt compelled to offer some final, personal insights and viewpoints regarding the future of a career field I've given more than 24 years of service to.

As we move forward in changing the way we conduct operations and training through our ongoing reengineering efforts, I am optimistic about the role AFW will continue to play in supporting the best Air Force and Army in the world. The following are my thoughts on how far we've come and the road ahead.

## AFW Operations—In Balance with Standard Military Warfare Concepts

I think the single most important benefit to be potentially realized from AFW reengineering is the clear alignment of our weather operations with standard military operations concepts. The three-tiered approach of strategic centralization, operational consolidation, and tactical decentralization has been the foundation of overall military operations strategy for quite some time. While we in AFW certainly have addressed strategic and tactical operations concerns in the past, the creation of Operational Weather Squadrons to provide consolidation of weather intelligence at the operational (i.e., theater) level finally brings our operations concepts into conformity with standard military operations.

Now, what to do with this new entity called the OWS? How do we as weather operators utilize this new center of weather knowledge and operations to best meet the needs of the warfighter? It is clear there are services and products we can now provide either for the first time or with much better quality than we have in the past. And, the OWS's role raises issues and concerns for how we will conduct strategic and tactical weather operations in the future.

## Operational Weather Squadron Roles and Responsibilities—The Operational Picture

**Theater or regional weather guidance focused on military operational requirements** establishes a parallel with other functions such as Intelligence and the flying community. Assessing the threat and impact of weather on the mission on a theater scale

and then applying that assessment to Air Tasking Order and sortie generation is a tremendous benefit. The advent of the OWS now makes this possible with a high degree of accuracy, detail, and reliability.

The generation of airfield-specific forecasts, such as the Terminal Aerodrome Forecast and resource protection products, such as warnings, watches and advisories, becomes a logical choice for OWS production because the OWS is now focused on the meteorology for their entire region or theater. This singular focus, along with reliable, effective communication with supported field customers and real-time access to airfield weather information, should enable the OWS to significantly improve airfield-forecasting accuracy.

Additionally, providing aircrew briefings for transient or off-station support can be easily assumed by the OWS as long as existing technology is fully and effectively used to help automate scheduling and briefing preparation to the greatest extent possible.

As with all functions, manpower becomes a real concern. Manual tracking of numerous flight schedules and "pen to paper" preparation of individual briefings could quickly consume the OWS manpower pool—automation should help relieve that concern.

There are a few key issues to emphasize for these OWS support responsibilities. Issues, that if not recognized and fully addressed, could result in dilution of the effectiveness and value of OWS products and services.

First, OWS regional or theater weather guidance and products must be tied to thresholds critical to military operations. We can not afford to waste our resources on providing information that has little impact or value. Mission-critical parameters such as in-flight visibility for refueling, drop zone winds, and ducting conditions for radar propagation, should be included in our focus as we develop a standard suite of products and the technology to produce them. Additionally, these regional or theater products must be fine-scale and highly detailed in nature. There is a very fine line in providing enough detail to allow users in the field to derive the information they need without requiring those users to duplicate the OWS forecast process. Technology improvements and growing experience in the OWSs will likely result in a level of detail that will be of unprecedented value to tactical forecast development. In the meantime, the fact these products are constantly monitored and amended as necessary should provide a great level

of comfort and confidence for anyone using them.

Secondly, TAF production and resource protection must be standardized to the greatest extent possible. That is, the criteria and thresholds we specify and amend for should not vary greatly from location to location. Having said that, I think we all recognize there will always be unique, customer-driven requirements that must be addressed. Some of these can certainly be accommodated; others may be beyond our capabilities to satisfy. We should establish baseline criteria or thresholds that are directly tied to standard military operations and then closely scrutinize any additional requirements. To state it simply, we have always been challenged in trying to forecast for several, multiple thresholds when the base/post weather forecaster had the job of airfield forecasting. Often, the forecasters found themselves at the mercy of the weather as they tried to address 100-foot or 1/4-mile increments in ceiling and visibility criteria. This led to doing nothing more than “chasing the observation” in critical, poor weather conditions; a tremendous amount of frustration for the forecaster; and damage to our customers’ perception of our credibility. We need to judiciously proceed in transferring that process to the OWS.

Lastly, OWS production of transient and off-station aircrew briefings does not translate to out-and-out OWS ownership of the tactical mission execution forecast role for all operations. The OWS should only be involved in the MEF process because it has to be, not because it necessarily fits into the

standard operational methodology. In the case of transient aircrews or those Guard and Reserve units without indigenous weather personnel, the OWS must take on the MEF responsibility. This is nothing more than a compromise because there really is no other option. But to compromise the OWS operational integrity for these requirements should not mean a wholesale transfer of MEF responsibilities for those locations that do have assigned weather personnel. This is where I see significant differences in what is interpreted as the value of the local combat weather team at the base and post level. With the lack of direct integration and involvement in local mission planning (this includes selection of mission tactics, techniques, and procedures, which vary depending on several factors to include the day’s mission, weather, intelligence, etc.), I don’t think the OWS will ever be quite as good in the MEF role as the local combat weather team.

I don’t envision the OWS forecaster ever having the same level of near constant contact with local command and control, where instantaneous mission decisions are made, like the CWT forecaster on the ground has. I’ll address my view of the CWT role in more detail later but, in a nutshell, I never thought of the OWS as the end-all result for AF Weather reengineering efforts—only as the facilitator or enabler to help our CWTs perform their tactical mission more effectively. If we are to fully realize the benefits of aligning weather operations to

See **Perspective**, page 20

## Former SEA losses battle

Chief Master Sgt. George M. Horn, former Senior Enlisted Advisor for the Air Weather Service, pictured with Brig. Gen. Al Kaehn, former Director for AWS. Chief Horn passed away Feb. 28, losing his battle with Lou Gehrig’s disease. His final resting place is Arlington National Cemetery.

Chief Horn served more than 32 years active duty in Air Force Weather, the last four as the SEA. The Chief retired from federal service in 1995, after 44 years of dedication.



# Mass Appeal

## Meteorologist creates Christian folk music CD

By Judith Crow  
Dispatch staff writer

MAXWELL AFB, Ala. — Everyone seems to like some kind of music, but few take on the challenge of creating music. Maj. Paul Niesen, College for Aerospace, Doctrine, Research and Education chief of Plans Division at Maxwell AFB, Ala., decided he wanted to try to improve his Catholic church's traditional music program and write "more singable" music to the traditional psalms the church chants.

The result is 12-track CD titled, "God, in Your Goodness, a Collection of Psalms, Volume I," which was composed and arranged by the major and features the Fort Belvoir, Va., Catholic community's folk group, "The Companions on the Journey."

"I did not do all of this music by myself," he said. "Even though I have always had a strong music interest, I had a lot of help, first of all from the Fort Belvoir 0900 folk group and also, very importantly, my family."

Niesen came to Maxwell in July from the Pentagon where his commanding general had dubbed him "the musical meteorologist" because the major's Air Force background for 16 years has been weather. "In fact, this is my first non-weather job," Niesen said.

Niesen's musical instrument is clarinet, which he's played since the fourth grade, but he has also learned the guitar and keyboard. He started playing in his parish folk group in Monona, Wis., and from there participated with several parish folk music groups in Manhattan, Kan.; Stone Mountain, Ga.; and Fairview Heights, Ill. He was the leader of the folk music group at the

Wiesbaden military community parish at Wiesbaden AB, Germany from 1994 to 1996, then moved on to the Fort Belvoir Catholic community.

The Niesen daughters started participating in the music group while the family was in Virginia. Sixteen-year-old Stephanie taught herself to play the flute so she could play with the group, and 13-year-old daughter Allison developed a love for percussion while participating in the group. Both are presently in area Magnet schools' bands with Stephanie playing clarinet and Allison on mallet instruments.

"I am really proud that the girls have been a positive influence and role model for other young adults in the church, both at Belvoir and now at Maxwell," their father said.

Niesen's music is influenced by the instrumental group Mannheim Steamroller. "The group influenced my music not only by their eclectic styles of music and instruments, but also because a lot of their music is

generated by computers and sound modules," he said. "After marveling at several of their CDs and seeing videos of how they do business, I concluded that it was something I could tackle, too."

"Computers are wonderful tools," Niesen said. "With a couple of different programs and some time, I was not only able to compose and print off the parts for my CD, but I was also able to put together the background music for six tracks on the CD."

Blues and jazz also affected the major, especially when he tried arranging a gospel-style song of "Psalm 15."

"I really enjoy gospel music, in great part because it appeals to my musical heritage of blues and jazz. The group first thought it was an odd arrangement, but it grew on them and became one of their favorites," said the major.

Niesen is currently finishing Volume II of his collection of psalms in addition to playing music with his daughters at the Maxwell Chapel One parish group every Sunday.✝



Photo by Bud Hancock

The Niesen family members rehearse for Sunday Mass at Maxwell Chapel One. Pictured from left to right are Stephanie Niesen, Maj. Paul Niesen and Allison Niesen.

# Air Force forecasters weather 'Storm!' on CNN Webcast

By Staff Sgt. Cortchie Welch  
Air Mobility Command Public  
Affairs

SCOTT AFB, Ill. — Three Air Force weather forecasters appeared on a CNN Web-based program March 23 to demonstrate how their profession enhances military operations.

Airman 1st Class Tanylle Casper, a weather apprentice from the 15th Operational Weather Squadron here, and Senior Master Sgt. Chris Rambali of the Air Combat Command weather division at Langley Air Force Base, Va., visited CNN studios in Atlanta March 12 to participate in the taping of a CNNfyi.com program called "Storm! On the horizon." Also

participating in the taping was Maj. Stephen Romolo, commander of Army Forces Command's weather staff operations at Fort McPherson, Ga.

The Webcast, an interactive on-line program for eighth- and ninth-graders and their teachers, was posted at noon EST, March 23.

The military portion of the Webcast focuses on how military weather forecasters support Air Force and Army during peacetime and combat operations.

During the Webcast, the forecasters perform experiments on air pressure, respond to questions students emailed to CNNfyi.com and talk about the different types of equipment the military uses to predict weather. The taping took three hours for

the 50-minute segment.

Romolo said the program benefits the Air Force by presenting a positive image of the service and Air Force weather.

"The Webcast gave us a chance to provide insight to young students about the Air Force and a career in the weather field," Romolo said. "The program also shows the students that the skills they receive in the military can be marketable in the civilian community."

According to CNN officials the Web site received more than 400,000 hits from around the world and approximately 100,000 page views were viewed. ♣  
*(Courtesy of Air Mobility Command News Service)*

## Weather Squadron Reaches Out

By Lt. Col. Mark Weadon  
88th Weather Squadron Commander

Despite the old adage to the contrary, "those who can" do teach. Wright-Patterson AFB has a wealth of scientific and technical expertise — one of the largest, if not the largest, such concentrations in the state.

While this expertise performs a specific mission, we are also blessed with an opportunity to share our knowledge and talents with the local community. The base educational outreach program promotes partnerships between technical experts on Wright-Patterson and local schools eager to supplement their classes with exciting, hands-on demonstrations.

The spark of a real expert talking about his or her professional field in the classroom can be electrifying. But there's more to it than just pep-ping up the classroom. What students see of us in the military makes an indelible impression. By sharing knowledge and experience in the classroom, we become a real and positive presence in our community. That kind of goodwill can't be measured.

The men and women of the 88th Weather Squad-

ron have been showing just what is possible through active participation in educational outreach activities. Over the past year, they have been revealing the wonders of meteorology to Dayton area students, from kindergarten through high school. Demonstrations cover such topics as lightning, cloud formations, and how radar allows us to "see" tornadoes in clouds.

We have even launched weather balloons as a practical demonstration of how to take weather measurements high in the atmosphere.

As a commander, I support the outreach initiative, but I haven't had to resort to "arm twisting" squadron members. Over 90 percent of squadron people have signed on already. I'm eagerly waiting for my turn.

Besides visits to the schools, classes also tour the base weather station for a first-hand look at our weather equipment. In another initiative, Kirk Lehneis, a staff meteorologist, is developing a distance learning module on weather for Carlyle Schools under the auspices of educational outreach.

We have also participated in school "career days," explaining what meteorologists do in the Air Force.

(See **Outreach**, page 20)

# Andersen supports civilian weather research project

By Tech. Sgt. Jon Hanson  
36th Air Base Wing Public Affairs

ANDERSEN AFB, Guam (AFPN) — Andersen Air Force Base opened its doors Nov. 20 to Dec. 8, 2000 for a private company wanting to use the base's northwest field to fly their unmanned aerial vehicles for weather research.

The 36th Operations Support Squadron was tasked to support Aerosonde Rhotic Aircraft's use of Northwest Field to fly UAVs conducting weather research.

"Although they are on a current mission that is not related to Andersen AFB or the United States (government), Aerosonde's visit is another example of our military success and how we can jointly come together with international agencies for weather research," said Master Sgt. Chris Toale, chief air traffic controller, 36th Operations Support Squadron.

"It's another great opportunity for the U.S. Air Force to use another Andersen AFB asset," Toale said. "There's always the possibility that the Air Force will use Aerosonde's weather data collection in the future. For us at Andersen to experience their operation from an air traffic control standpoint gives us first-hand knowledge, should it occur elsewhere in the world."

This isn't the first time Aerosonde has worked with the military. The company has been contracted by the Navy and Marines to provide weather data

and much of their work supports the National Weather Service.

The UAVs are capable of flying more than 30 hours at a time and reaching speeds of 40 to 50 knots. Each aircraft costs approximately \$30,000.

While here, Aerosonde technicians flew their UAVs for 150 hours in eight flights.

"We fly them into dangerous weather. Not all come home, but most do," said Greg Tyrell, Aerosonde operations manager. "We can fly them into anything except tornadoes."

"Due to their unique operation and the fact this has never been done here before, the planning never stopped up until their arrival on island," Toale said. "I acted as a guide to assist them with the several agencies they needed to contact to gain approval of their operations."

Planning for the UAV deployment started in late September and included the FAA for approval of Aerosonde's operations in air traffic control-assigned airspace, the U.S. Coast Guard for scheduling the warning areas, the U.S. Navy for placement of antenna on Orote Point, the 36th Communications Squadron for frequency use, and the 36th Security Forces Squadron for base entry.

"Most importantly, working with Aerosonde, I established procedures to de-conflict air traffic control with their UAV operation. I also ensured flight "Notice to Airmen" procedures were sent out to our local flying community on Guam," said Toale. *(Courtesy of Pacific Air Forces News Service)*

## Global Hawk soars to Equator and back

By Sue Baker, APR  
Aeromautical System Center  
Public Affairs

WRIGHT-PATTERSON AFB, Ohio — As most of America slept peacefully, the Air Force's Global Hawk Unmanned Aerial Vehicle made aerospace history by successfully reaching and returning from the Earth's equator.

Taking off from the Air Force Flight Test Center at Edwards AFB, Calif., March 19 at 9:52 p.m. EST, Global Hawk Air Vehicle No. 3 flew a 30.5-hour, equatorial test sortie, reaching an altitude of

65,000 feet during the program's 73rd successful mission. This mission brought the Global Hawk program's total flying time up to 854.5 hours.

"Our goal was twofold," said Col. Wayne Johnson, director, Global Hawk Division, Reconnaissance Systems Program Office, Aeronautical Systems Center, Wright-Patterson AFB. "We wanted to ensure that Global Hawk could function effectively through equatorial air masses, using its updated Environmental Control System to monitor extreme cold at maximum altitudes over the equator."

Second, the program office evaluated several other Block II modifications, according to Johnson.

These included the UAV's navigation system, which traveled south of the equator for the first time.

"All planned objectives appear to have been accomplished," said Johnson.

In late April, Global Hawk Air Vehicle No. 5 is scheduled to deploy to Royal Australian Air Force (RAAF) Edinburgh near Adelaide, Australia for exercise Tandem Thrust. ✎

# Global Hawk



U.S. Air Force photo

## HEADING "DOWN UNDER"

### Military forecasters predict safe route for Global Hawk UAV

**By Sue Baker**  
Aeronautical Systems Center  
Public Affairs

WRIGHT-PATTERSON AFB, Ohio – This April, the Air Force's Global Hawk Unmanned Aerial Vehicle will make aerospace history, as it flies – alone, non-stop, and unrefueled – 7,500 nautical (8,600 statute) miles, from Edwards AFB, Calif., to Air Force (Base) Edinburgh at Adelaide, Australia.

Carving a great circle route across the Pacific to save precious fuel, Global Hawk undoubtedly will face many dangers and uncertainties during its 22-plus-hour flight – but the weather will not be one of those unknowns,

thanks to the 88th Wing Weather Squadron here, working with a combined team of Air Force and Australian forecast experts.

"Since last year, we've been working with Global Hawk mission planners to determine the weather parameters for this mission in April, plus the 12 flights the UAV will fly in support of Australia's in-country, joint-force exercises," said Capt. Jeff Shull, 88th WS staff meteorologist.

"Adelaide's weather in April will be much like Dayton's (Ohio) weather is in October. We don't see much in the way of severe weather that time of year."

Although the day-to-day weather in Australia isn't ex-

pected to be heavy-duty, Global Hawk's eight-hour journey across the Inter-Tropical Convergence Zone, which spans the equator from 15 degrees south to 15 degrees north latitude, will pose the greatest danger. Thunderstorms, which tend to cluster in this zone, are almost continuous.

"For an airborne aircraft, everything about being near a thunderstorm is bad," said Shull. "That's why we're going to make sure that Global Hawk has both distance and vertical height far away from these thunderstorms.

"For example, if we see huge, tropical cyclones, the kind that can reach above 50,000 feet, we'll use a combination of near-real-time satellite and radar images to

advise mission controllers based in Australia — who are guiding Global Hawk's flight completely from 'Down Under' for the first time — to vector the UAV to a safe distance, say 50 nautical miles, around lightning, turbulence, icing, hail, and hurricanes.

"We usually think of lightning as going from the cloud to the ground, but it also can go up," Shull said. "As Global Hawk travels through the ITCZ, it might induce a lightning-strike, where such a phenomenon might not otherwise happened."

"We also have looked at upper-air climatic data, to determine the optimal timing for the deployment and redeployment missions, based on the natural environment," said Capt. Glenn Kerr, 88th WS staff meteorologist, who will deploy with almost 100 members of the Global Hawk Air Force-contractor team to Australia in mid-April, to provide on-site support even before the mission begins.

"Another challenge Global Hawk will face as it nears the equator is ionospheric scintillation, otherwise known as the 'Appleton Anomaly,' named after British physicist Sir Edward V. Appleton, who first studied ionospheric phenomena in the 1920's," Shull said. "Everything depends on how the earth is tilted toward the sun, but within 15 degrees plus or minus of the equator, there are bands of interference, enhanced by solar activity, that tend to weaken the strength of high-frequency radio and satellite communication signals by as much as 13 decibels. We're making sure that the timing of the missions — coming and going — will avoid that period of the day, from sunset to midnight, when the Appleton Anomaly is most intense."

Another challenge is extreme cold where Global Hawk cruises,

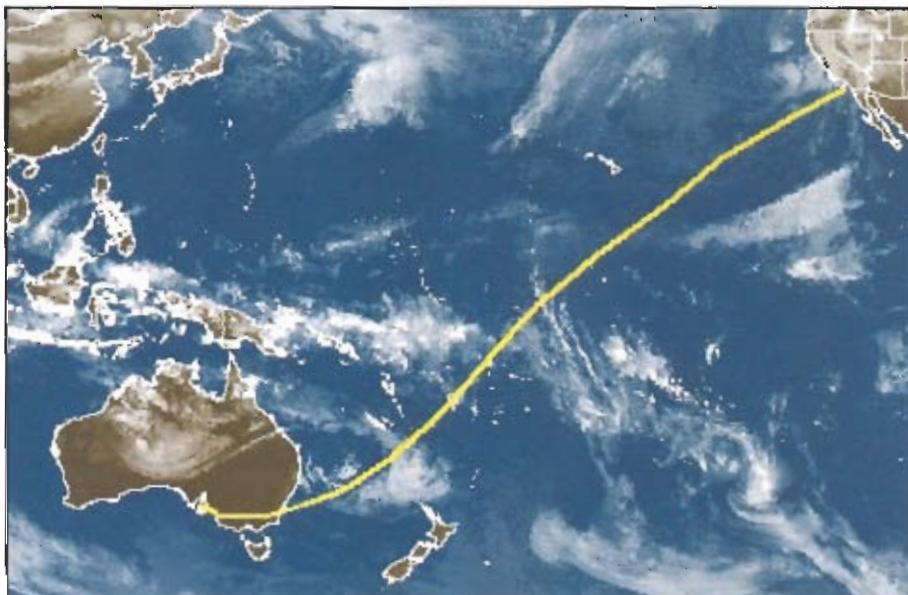
between 55,000 and 65,000 feet. "On a normal Air Force deployment, bombers and tankers operate at flight levels of 25,000 feet," Kerr said. "For Global Hawk, we will be looking at higher-altitude weather than is typical for most Air Force operations. Most people think that at the equator, cold temperatures wouldn't be a concern, but where Global Hawk will fly, ambient temperatures can drop to minus 110 degrees Fahrenheit.

"This is because the height of the tropopause, or the level where temperatures begin to warm up with increasing altitude, is at its greatest over the equator," Kerr added. "Temperatures here are much colder at these altitudes than at higher latitudes, where the atmosphere has already begun to warm with increasing height."

Of additional concern to the

forecasters is the fact that there is no surface weather radar coverage over the open ocean. "This makes us particularly dependent on weather satellite data to detect thunderstorm activity and related hazards," said Shull. "Before Global Hawk departs Edwards, we'll use images from a U.S. weather satellite, the Geostationary Operational Earth Satellite West, parked over 120 degrees longitude, that will give us weather for the West Coast and the vicinity of Hawaii. And for the open ocean portion of this mission, we'll rely on the Japanese Geostationary Meteorological Satellite-5 that takes pictures over the Pacific."

Additional, weathercasters around the globe are helping ensure Global Hawk's mission success, according to Captain Kerr. "The 17th OWS at Hickam AFB, Hawaii will be in contact



U.S. Air Force photo

This map shows prevailing weather patterns along the route the Air Force's Global Hawk Unmanned Aerial Vehicle (UAV) will take from Edwards AFB, Calif., to Royal Australian Air Force (Base) Edinburgh at Adelaide, Australia, when it deploys for six weeks April 23. Global Hawk will participate in a dozen joint-force military exercises around the island this summer. Skilled Air Force weathercasters from the 88th WS at Aeronautical Systems Center at

Wright-Patterson AFB, Ohio, have been working for months with AFWA at Offutt AFB, Neb., the 17th Operational Support Squadron, Pacific Air Forces Command at Hickam AFB, Hawaii, and the Australian Bureau of Meteorology (Defense Meteorological Support Unit) to ensure that Global Hawk will fly the safest, most fuel-efficient route possible, while gathering valuable weather data to help all weathercasters improve their prediction models.

with me to provide local-theater expertise," he explained. "And the 55th Space Weather Squadron and Air Force Weather Agency at Offutt AFB, Neb., are providing terrific data in support of this mission.

"We also have been talking to the Australian Bureau of Meteorology's Defense Meteorological Support Unit, whose civilian forecasters will predict operational conditions for Royal Australia Air Force (Base) Edinburgh, where Global Hawk will land and from which it will operate during Tandem Thrust," Kerr said.

"In the center of the country, known as the Outback, there's not a lot of radar coverage, but they have many radar sites along the coastline, which will help us determine thunderstorm potential and location," Kerr added.

"The area of focus is the whole east coast of Australia, from Edinburgh, just north of Melbourne, up to north of Canberra," Shull said. "During a series of 18 to 30-hour missions, Global Hawk will do what it's used to doing – respond to the command, 'O.K., here's a target, go take pictures of it' – but also scanning areas, within a series of grids, from the upper east coast to the northwest coast, performing maritime surveillance, a relatively new task for the UAV."

During the joint-force exercises, which will run through the month of May, Global Hawk will support RAAF, Canadian Navy, U.S. Navy, U.S. Marine Corps, and U.S. Special Operations units, according to Shull.

The Global Hawk program is directed at Aeronautical Systems Center, Wright-Patterson AFB, by Col. Wayne Johnson, Global Hawk Office, Reconnaissance Systems Program Office. The prime contractor is Northrop Grumman's Ryan Aeronautical Center in San Diego, Calif. ✕

# UAVs on Air Force Horizon

**Tech. Sgt. Miles Brown**  
Observer Editor

Unmanned Aerial Vehicles may seem like futuristic dreams, but they are very much part of today's Air Force research and development and tomorrow's warfighting capability.

In the near future, UAVs will perform intelligence, surveillance, and reconnaissance missions.

The Air Force expects to exploit the technological promise of UAVs across the full range of missions, including areas such as communications relay and suppression-of-enemy-air-defense missions.

Presently, the Air Force is working on three UAVs to perform ISR missions for the joint force, one currently operating and two under development.

The Predator (Tier II) is a medium-altitude endurance UAV designed to collect full-motion video and frame imagery with electro-optical, infrared, synthetic aperture radar (EO/IR/SAR) sensors all carried on board at the same time. The Predator is capable of flying for a maximum of 24 to 30 hours and can operate in a permissive threat environment. The ceiling is 25,000 feet, but Predator normally operates at 10,000 to 15,000 feet.

Predator was the first Advanced Concept Technology Demonstration program to transition to an operational capability, having been used extensively in Europe supporting Bosnia operations. Predator is assigned to the 11th Reconnaissance Squadron at Indian Springs, Nevada.

Advanced Research Projects Agency, under a single ACTD, is developing the high-altitude endurance UAVs, Global Hawk and DarkStar. The ACTD also includes the development of a common ground station. Global Hawk is designed to be a long endurance ISR platform. The ACTD will develop the air vehicle and EO/IR/SAR imagery sensors to be carried on the vehicle. Global Hawk will be capable of operating at 65,000 feet with a maximum flight time of 40 hours. Global Hawk's speed is faster than 300 knots. It can carry more than 1,800 pounds of internal payload, but the design will accept hard points to carry two 1,000-pound pods for future sensors.

The use and deployment of UAVs will continue in every theater of operation, but the migration of additional missions to UAVs will depend upon technology maturation, affordability, and the evolution to other forms of warfare. ✕  
*(Compiled from the Air Force Issues Book)*

# 2000 Air Force Weather

## **Capt. Mark Mesenbrink,**

75th OSS/OSW, Hill AFB, Utah (AFMC)  
Grisham Award — Outstanding Air Force  
Weather Company Grade Officer of the Year

Also nominated:

|                              |                               |
|------------------------------|-------------------------------|
| 2d Lt Jerome Hernandez (ACC) | 1st Lt Jesse Peterson (AFSOC) |
| Capt Jeffrey Jarry (AMC)     | Capt Travis Steen (AFWA)      |
| Capt Mike McAleenan (USAFE)  | Capt Frank Tersigni (AFSFC)   |
| Capt Deleon Narcisse (PACAF) | Capt Jennifer Winslow (AETC)  |

## **Mark Fietek,**

92nd OSS, Fairchild AFB, Wash. (AMC)  
Jenner Award — Outstanding Air Force  
Weather Civilian of the Year

Also nominated:

|                             |                      |
|-----------------------------|----------------------|
| Dr. Christy Crosiar (AFSFC) | Kay Meehan (AFWA)    |
| Philip Harvey (AFMC)        | James Risher (ACC)   |
|                             | Richard Zentz (AETC) |

## **Aviation Tactics Evaluation Group, Weather Directorate, Ft. Bragg, N.C. (AFSOC)**

Moorman Award — Outstanding Weather Unit  
providing specialized support

Also nominated:

|                      |                        |
|----------------------|------------------------|
| AFWA/XOG (AFWA)      | 88th WS (AFMC)         |
| 17th OWS/WXJ (PACAF) | 335th TRS/COA (AETC)   |
| 31st CCG/CYNM (ACC)  | 614th SOPG/AWT (AFSFC) |

## **AFRL Space Weather Center Of Excellence**

Hanscom AFB, Mass.

## **Space Environment Support Systems Rapid Prototyping Center,**

Peterson AFB, Colo. (AFMC)

Merewether Award — Most Significant  
Technical Contribution

Also nominated:

|                               |                       |
|-------------------------------|-----------------------|
| MDAS.MVOI Team (AFWA)         | 17th OWS/WXJO (PACAF) |
| MSgt David Vandenheuvel (ACC) | 353rd OSS/OSW (AFSOC) |

## **Maj. Michael Heathfield,**

2nd WF, Ft. McPherson AIN, Ga. (ACC)  
Spengler Award — Outstanding Air Force  
Weather Individual Mobilization Augmentee

Also nominated: Maj. Brent Shaw (AFWA)

## **Master Sgt. David Lappie,**

52nd OSS/OSW, Spangdahlem AB,  
Germany (USAFE)

Gardner Award — Outstanding Air Force Weather  
Senior Noncommissioned Officer of the Year

Also nominated:

|                           |                                   |
|---------------------------|-----------------------------------|
| MSgt Alan Bryant (AFMC)   | MSgt Duane Limberg (AFWA)         |
| MSgt David Craft (PACAF)  | MSgt Stephen McElroy (AETC)       |
| MSgt Scott Copeland (AMC) | MSgt William Schmeiser<br>(AFSFC) |
| MSgt Clyde Hunter (AFSOC) | MSgt Rudy Tinglehoff (ACC)        |

## **Air Force Award**

Four Air Force Weather annual awards were officially named, keeping with the Air Force's tradition of naming awards of recognizing significant organizational contributors and honoring the service accomplishments of the professionals who shaped the future of Air Force.

The four newly named awards are the Air Force Weather annual awards for outstanding company grade officer, senior non-commissioned officer, civilian, and operational weather squadron.

A six-member review board convened Feb. 8 in the offices of the Director of Weather, Pentagon, to discuss the possible candidates. The board's final decisions exemplify the best the Air Force has to offer.

Following are the new award names and a

## **31st Operations Support Squadron,**

Aviano AB, Italy (USAFE)

Williams Award — Outstanding Air Force  
Weather Flight of the Year

Also nominated:

|                       |                       |
|-----------------------|-----------------------|
| 7th OSS/OSW (ACC)     | 97th OSS/OSW (AETC)   |
| 25th ASOS/DOW (PACAF) | 341th OSS/OSW (AFSFC) |
| 75th OSS/OSW (AFMC)   | 352nd OSS/OSW (AFSOC) |
| 89th OSS/OSW (AMC)    | 452nd OSS/OSW (AFRC)  |

## **164th Weather Flight,**

Columbus, Ohio (ANG)

Collens Award — Outstanding Air National  
Guard Weather Unit

# Weather Award Winners

**Staff Sgt. Jennifer Shields,**  
75th OSS/OSW, Hill AFB, Utah (AFMC)  
Pierce Award — Outstanding Air Force Weather  
Noncommissioned Officer of the Year

Also nominated:  
SSgt Cassandra Ableiter (PACAF)  
SSgt Jason Clapp (AFSOC)  
TSgt Gerald Cordova (USAFE)

TSgt Daniel Oien III (AFSPC)  
SSgt Valerie Smith (AMC)  
TSgt Jeffrey Struebing (AFWA)  
SSgt William Wilson (AETC)  
SSgt Alan Wortkoetter (ACC)

**Airman 1st Class John Snodgrass,**  
3rd ASOS/WE, Ft. Wainwright AIN,  
Alaska (PACAF)  
Dodson Award — Outstanding Air Force Weather  
Airman of the Year

Also nominated:  
Amn. Karin Burke (USAFE)  
SrA Jared Ey (AFSPC)  
A1C Jessica Kishimizu (ACC)  
SrA Michael Hermann (AFSOC)

A1C Brenda Vasquez (AETC)  
SrA Troy Reisner (AFMC)  
SrA Tracy Roberts (AFWA)  
A1C Mark Sterling (AMC)

## s named for 2000

brief write-up of their Air Force Weather  
contributions:

**Capt. Leon M. Grisham Award:**  
Outstanding Company Grade Officer of the Year  
Award

Capt. Grisham earned three Distinguished Flying Crosses, 13 Air Medals, a Bronze Star Medal, two Purple Hearts and the Air Force Commendation Medal with two Oak Leaf Clusters during his military career. He is believed to be the most decorated member in the history of the Air Weather Service. During World War II, Capt. Grisham was a P-47 and P-51 pilot, flying 41 combat missions over Germany and shooting down three Me-109s. On his 41st mission, his aircraft was shot

See Awards, Page 16

**William Roeder,**  
45th WS, Patrick AFB, Fla. (AFSPC)  
Zimmerman Award — Best Application of  
Climatology in support of Aerospace Weather  
Also nominated: Raymnd Kiess and Michael Squires (AFWA)

**Capt. Lee Byerle,**  
HQ USAFE/DOW, Ramstein AB,  
Germany (USAFE)  
Best Award — Excellence in Weather Staff  
Support, Officer Category

Also nominated:  
Capt Bryan Adams (ACC)  
Capt Kyle Bellue (AETC)  
Maj Michael Farrar (AFWA)  
Capt Michael Gremillion (AFSPC)

1st Lt Jennifer Meadows (PACAF)  
Capt Cecilia Radsliff (AFMC)  
Capt Jimmie Trigg (AMC)  
Maj Kevin Trissell (SHAPE)

**Senior Master Sgt. Pual Rano,**  
15th OWS, Scott AFB, Ill. (AMC)  
Best Award — Excellence in Weather Staff  
Support, Enlisted Category

Also nominated:  
SMSgt John Galliano (USAFE)  
TSgt Arleen Jancic (PACAF)  
MSgt Keith Johnson (AETC)

MSgt Ronald Kommer (ACC)  
SMSgt James Minyon (AFSPC)  
SMSgt Rodney Rabenneck (AFWA)

**Mr. Thomas Kotz,**  
AFCCC, Asheville, N.C. (AFWA)  
Best Award — Excellence in Weather Staff  
Support, Civilian Category

Also nominated:  
Alan Gibbs (AFSPC)

Vickie Simants (AETC)

## Detachment 5, 10th Combat Weather Squadron

Ft. Bragg, N.C. (AFSOC)  
Grimes Award — Outstanding Weather Flight  
supporting special operations

Also nominated:  
3rd ASOS (PACAF)

3rd WS (ACC)  
Det. 2, 7th WS (USAFE)

## 15th Operational Weather Squadron, Scott AFB, Ill. (AMC)

Fawbush-Miller Award — Outstanding Air Force  
Operational Weather Squadron of the Year

Also nominated:  
USAFE OWS (USAFE)

11th OWS (PACAF)  
25th OWS (ACC)

## Awards, continued

down while strafing an airdrome and he spent the remainder of the war as a POW at Follingbostel, Germany. Later, Capt. Grisham served as the staff weather officer to the 51st Fighter Interceptor Wing in Japan. He was the first AWS officer to fly over 100 combat missions in the F-80 Shooting Star over Korea. He holds the distinction of being the only field grade weather officer in the Air Weather Service to have flown F-100 Super Sabres, F-102 Delta Daggers, F-104 Starfighters, and F-5 Freedom Fighters. Capt. Grisham was a primary member of the Air Training Command F-94C Starfire rocket team in 1955 and completed the F-94C Intercept Weapons Instructors School, by then he had 2000 hours of jet flying time. He eventually rose to the rank of colonel and commanded the 55th Weather Reconnaissance Squadron from 1965-67.

**Mr. William A. Jenner Award:**  
Air Force Weather Civilian of the Year Award

Known as "Mr. Weather Training", William Jenner worked in, and eventually directed, the training division for 42 years. Jenner joined the military in 1942 and was assigned to the Air Weather Service.

He graduated technical school at Chanute AFB, Ill. Shortly after graduating, he was selected as an aviation cadet and received his commission. Jenner returned to civilian life after the war and obtained a master's degree in education from the University of Missouri.

He joined the Weather Bureau in 1947 and worked on the bureau's Thunderstorm Research Project. Two years later he went to work in the Air

Weather Service Training Office, Andrews AFB, Md., and worked on the Air Force classification system. He then moved the training office to Scott AFB, Ill., when the headquarters moved, Jenner produced a series of weather training regulations plus individual and group training programs for various officer and enlisted career fields. His training programs not only affected active duty Air Force members, but members of the Reserves and Air National Guard as well.



**Chief Master Sgt. William Gardner Award:**  
Outstanding Senior NCO of the Year Award

Chief Master Sgt. Gardner was named the first senior enlisted advisor for the Air Weather Association by Maj. Gen. Pierce. He held the position from December 1968 through the end of 1970. Chief Master Sgt. Gardner joined the weather field after spending part of his career in the equipment maintenance area. When he joined weather, he cross-trained into the Weather Equipment Superintendent field, where he spent most of his illustrious career.

**Major Ernest J. Fawbush & Captain Robert C. Miller:**  
Operational Weather Squadron of the Year Award  
Maj. Fawbush and Capt.

Miller are renowned in the weather community for issuing the first tornado forecast at Tinker AFB, Okla., March 25, 1949, and pioneering efforts in the United States to forecast severe weather. The two officers' began their military careers as enlisted men prior to receiving commissions. Their techniques were becoming so proficient in 1949, that 13 of the 14 tornadoes they forecast were verified. Then in 1950, 29 of their 33 tornado forecasts were verified. The officers' success prompted Air Weather Service to create the Severe Weather Warning Center at Tinker AFB in 1951. It was later moved to Kansas City, Mo., and became Det. 42, 8th Weather Group. Fawbush's and Miller's efforts in tornado forecasting and other meteorological achievements resulted in them sharing the American Meteorological Society's Clarence LeRoy Meisinger Award in 1956.

A young Capt. Fawbush commanded the 11th Weather Squadron and the Alaska Weather Central from 1944 through 1947. Later, Lt. Col. Fawbush became the commander of the 6th Weather Squadron from May 1952 through September 1955. He then commanded the 29th Weather Squadron from October 1955 to October 1959.

Lt. Col. Miller became the commander of Det. 42, and was awarded the first Moorman Award in 1964. After his retirement from the Air Force in 1966, Col. Miller worked as the chief forecaster of the USAF Military Weather Warning Center, and helped move the Severe Local Storms Unit from Kansas City to the Air Force's Global Weather Central at Offutt AFB, Neb., in January 1970.✧

*(Compiled from AFWA History office reports)*

# Training division gathers severe weather forecasting tools

By Master Sgt. Gary Mercer

Technical Training Branch Superintendent, AFWA

Forecasting severe convective weather is probably the most challenging task weather professionals face. Large hail, microburst activity, flash floods, and deadly lightning are often the results of thunderstorm activity. Timely, accurate severe weather forecasts and warnings greatly reduce these risks, not only to base or post resources but also to personnel in the area. It's been recognized that more severe convective training materials are needed to ensure forecasters can meet these formidable challenges.

The folks in the Training Division at HQ Air Force Weather Agency at Offutt AFB, Neb., have researched and compiled the latest information available on forecasting convection.

"The training division is working to develop user-friendly training materials to meet the requirements for training standard weather processes and systems that affect the entire career field," said Maj. Michael Farrar, training division chief, AFWA. "If field users have a training requirement that is currently unmet, we encourage them to flow that requirement up through their MAJCOM, and/or complete the 'Survey' section on the DNT website, so we can address their needs as soon as possible."

Before we discuss the products geared specifically for forecasting severe convection, let's discuss some of the publications available for download.

The Qualification Training Packages, or more commonly referred to as QTPs, qualify someone on a particular subject area corresponding to individual line item(s) in the AF Weather Career Field Education and Training Plan (CFETP), Part II. These publications are authored by AFWA/DNT.

Formal technical documents providing valuable meteorological information to field units can be found in the AFWA Technical Notes and Technical References. AFWA/DNT and AFCCC also author these publications.

Other valuable publications are the *Check it Out* and *For Your Information (FYIs)*. The *Check it Out* publications highlight meteorological techniques and other useful information from sources such as Air Force Weather, Navy Weather, National Weather Service, and various weather research facilities. *For Your Information (FYI)* publications provide useful information on new weather forecasting techniques.

Now that you know what products are available, let's look at the tools geared for forecasting severe convection. One of the latest training tools is the Convective QTP. This training package is designed primarily for the Initial Skills Course graduate, but can be used by those interested in sharpening severe forecasting ability. Some of the topics covered in this QTP are characteristics of thunderstorms, lightning, mesoscale convective systems (MCS), airmass types and patterns, severe weather indices, and analysis techniques.

Two other training packages that should be considered are the RADAR QTP and the METSAT QTP. The RADAR QTP covers RADAR principles, WSR-88D system concepts, Doppler products, Doppler product interpretation, and WSR-88D PUP operations. While the METSAT QTP is a useful training tool in developing forecasting skills for all types of weather, module 4, Imagery Analysis and Interpretation, would be especially relevant to the severe weather forecaster. This module provides example imagery of outflow boundaries, MCS, Mesoscale Convective Complexes, enhanced V, straight-line winds and even downbursts.

A Technical Note on Summer Regimes authored by Eugene Weber will soon be available to the field. This TN provides a wealth of case studies gathered over the years by Weber to include great pattern recognition training for new forecasters as well as useful refresher training for "old school" forecasters.

Finally, FYI - #42 Instrument Refresher Course (IRC) is available for weather personnel. It provides periodic weather refresher training to aircrew and air traffic control personnel. This FYI not only covers elements that need to be briefed, it also gives helpful hints about briefing preparation and presentation. A sample Power Point presentation can also be downloaded and modified to fit your unit's unique requirements.

All this information and more are available for download from the DNT homepage. The site can be accessed using the following URL: <https://www.mil.offutt.af.mil/afwadnt/> and then clicking on the **products** link. Under the products page, click the **publication** link. This will provide a list of all the products available to the Air Force Weather community. The DNT folks are always looking for new and better training material to provide to the forecasters at both the OWS and CWT. Keep checking the DNT web page to see what's new. ♪

## Outreach, continued from page 11

The Educational Outreach Program provides all the support you could want in setting up demonstrations.

According to base education outreach director Kathy Schweinfurth, the program enjoys strong support from senior leadership at Aeronautical Systems Center, Air Force Research Laboratory and other base orga-

nizations, but it absolutely depends on individual volunteers.

"If we don't get the volunteers to offer their time and talents, it doesn't go," said Schweinfurth.

There is no downside to educational outreach. Students benefit, and the military presenters get a chance to show off their field of expertise.

The impression you make may be just the spark needed to prompt a student to choose the

Air Force as a career. Even if it doesn't result in a new Air Force accession, it fosters a bond between our base and host community. History has shown that a viable military, especially one dependent on volunteers, must cultivate good relations with the civilian world from which it draws its strength. I can't think of a better way to promote goodwill toward the Air Force than through education.✶

## Perspective, continued from page 9

conform to standard military operations, we must recognize the value of each echelon of support.

### Combat Weather Teams—Mission Execution Forecasting Experts

In my mind, the **Combat Weather Team** performance, in the wake of reengineering, will be where we really "make our money." The CWT can make a tremendous impact on the effectiveness and success of their local customers' missions given the new focus made possible by the OWS and its support role. We must remember we have made a significant commitment to ensuring CWTs are manned with the bulk of AF weather experience so they can successfully carry out their mission. The rationale for this increasing the experience levels at the CWT must surely transcend the notion that these highly experienced forecasters are at the wing and post levels to do nothing more than brief an OWS-produced MEF. The CWT forecasters must be responsible for completing a forecasting process to ultimately produce a MEF. There are distinct roles and responsibilities each CWT must fulfill to fully realize the end-state benefits of reengineering.

First, the CWT must be the local sortie/mission weather expert. This includes full knowledge and understanding of all customer airframes, missions, applicable tactics, techniques, procedures, and weather impacts. Only through this expert knowledge can the CWT ensure its MEF processes are designed to meet tactical mission requirements. In terms of the MEF, it's relatively simple to outline the process. It is a combination of fine-scale OWS products, based on mission-critical parameters, and interpretation and integration of perishable data (metsat, radar, observations, etc.). These forecast tools are coupled with intimate knowledge of mission parameters and weather sensitivities to de-

velop a MEF. The real beauty of the MEF at the CWT level is there can be an immediate reaction to changes in the mission made by local command and control, changes that may be the result of any number of factors.

The OWS will be hard-pressed to be as timely or accurate in its response to these changes as the CWT is likely to be. However, I don't want to minimize the importance of the OWS contributions to the CWT's MEF. It is the OWS's analysis and interpretation of regional and theater weather information, development of fine-scale forecast products, and assumption of responsibility for the TAF and resource protection, that ultimately provides the necessary tools and resources for the CWT to be successful in its MEF role.

Secondly, the CWT must, as part of the MEF, institute a formal mission debriefing process to provide feedback to both the CWT and OWS on mission and support effectiveness. It is only through this kind of feedback that weather operators can truly benefit from lessons learned and become better in their jobs. It will probably be more palatable to the aircrews if this weather debriefing is automated to lessen the burden. But it is critical that we institutionalize across the Air Force and Army the idea of providing feedback on the quality and effectiveness of weather operations. In our search for more meaningful metrics, it is probable they will flow from this feedback.

Mission metwatch is another important role of the CWT. The CWT must constantly monitor and interpret weather information as the mission unfolds and provide real-time updates to command and control or aircrews based on the mission-critical thresholds. This dedicated focus on the mission by the CWT eliminates the "brief and forget" syndrome of the past and promotes teamwork and trust.

Airfield observing continues to be a critical responsibility of the CWT, at least until automated systems become more reliable. But we should recognize and take advantage of every opportunity to relieve CWTs of this responsibility, particularly

when local flying is not occurring, the airfield is closed, or the airspace classification allows for VFR operations. Our weather flights must search for opportunities to creatively schedule their people to most effectively use the resources at their disposal while meeting customers' mission support requirements. With the fielding of automated monitoring systems, the OWS forecasters can now monitor airfield weather sensors real-time, which should preclude the past need for full-time observing that provided for situational awareness. Hopefully, the CWTs will consider integrating the observing function as part of their local supervisor of flying support so there is the "biggest bang for the buck" in using these resources in the weather station.

Lastly, there's an obvious link in all of these roles to deployed operations. It makes good sense for the CWT to always deploy with its customer to "do in war as they do in peace." Also, this approach promotes constant learning of the mission and technical training on weather for both home station and deployed locations. Hopefully, this concept will become "ops normal" in the future as there are numerous, obvious benefits to being considered a vital and integral part of the deployed team. As a good friend of mine once said, "...good things will come our way if we can show our true value to the warfighter."

### Strategic Weather Operations—Focus on Long-Range, Global Forecasting

Along with the operational and tactical aspects of weather operations addressed through support from the OWS and CWT, strategic forecasting capabilities remain vitally important to completing our complimentary three tiers of support.

The Air Force Weather Agency continues to be the linchpin for strategic weather operations. In the past, their role (AF Global Weather Central of old) included a mix of all levels of support, from tactical to strategic. As the operations at the OWS and CWT mature with end-state reengineering, I think the strategic focus on products and services must include a long-range product suite that complements the OWS product suite. Again, mission-critical thresholds are important with an eye on products that extend from 72 hours and beyond. This time frame conforms to what is normally thought of as "strategic" in operations planning and would help the OWS and CWT with meeting long-range planning requirements. With standard military operations in mind, the CWT will focus their efforts on the short-term mission execution (0-12 hours) and the OWS will concentrate on providing guidance through 72 hours.

Along with the long-range suite of products,

AFWA should examine utilizing the fine-scale products from the OWS to mesh for worldwide coverage wherever possible. This would help provide continuity across OWS regions and further leverage the considerable effort by the OWSs to produce more fine-scale and accurate products.

Finally, AFWA should have a role in providing backup support to OWSs in the event of long-term outages or evacuations. It seems a logical role given AFWA would have the same production hardware and software as the OWSs. It should be contemplated that in the worst case scenario, the OWS should assign some of their production personnel temporarily at AFWA to assist with this backup production role.

### The OWS Training Mission—the Real Promise of Reengineering

I have always considered the OWS training mission to be equally important to the operations mission. The initial training provided at the OWS for our 3 levels truly lays the foundation for the future of the career field. To fully appreciate the promise of OWS training, we must remember how training for forecaster course graduates was conducted in the past.

It was not uncommon for a newly graduated forecaster to arrive at their duty station, be placed immediately on shift with a trainer, and then find themselves certified and alone on shift 6-8 weeks after arriving. This was partly due to the pressure of poor manning and the perceived need to get the individual into the shift schedule as quickly as possible. Even with the notion that the legacy forecaster course provided more comprehensive training, there are obvious flaws in this approach.

The trainer often didn't have the time to provide quality training because of actual shift duty requirements. In between NWP analysis, TAF development and issuance, and flight weather briefings, there was often very little extra time to devote to the trainee. Throw in a little adverse weather which drove the need for amendments, radar operations, and more frequent SOF updates, and it quickly went from bad to worse. The trainee was often forced to simply observe from the sidelines with limited opportunities for one-on-one trainer guidance or practical application.

Additionally, there was very little time devoted to knowledge-based training. Almost all training was On the Job Training. This may be a good approach if the trainee has a good grasp of weather forecasting fundamentals, but is not practical if there are shortfalls. The lack of any option for classroom instruction to formally address knowledge shortfalls typically led to qualification of a technically weak

forecaster.

The study time for completion of mandatory Career Development Course for upgrade was normally time taken out of hide by the trainee. Trainees either studied the CDCs during off-duty time or squeezed it in while on shift. This also required considerable effort on the part of supervisors to synchronize their time with the trainee to help out with study or questions if necessary—most times, the supervisor and trainee would not be working the same shifts.

The OWS and its training mission have provided a superb opportunity to develop what I consider to be one of the best unit training environments in the Air Force. The new construct consists of both classroom lecture and hands-on, laboratory study using real-time data. The requirements for this mix of training are objectively determined by evaluating the level of training provided in the formal course, as outlined by the CFETP, and then addressing the delta that exists for actual task and duty accomplishment at the OWS. This provides a superior approach to completing highly technical training and prepares students to become rapidly qualified to contribute to the OWS operational mission.

We should no longer find ourselves putting the trainee immediately into the trenches, and leave them to basically observe the trainer and not actually accomplish the tasks themselves (yes, it's busy for the NCOs and SNCOs in the OWS just as it was in the traditional BWS). By the time OWS trainees find themselves in the ops areas, they have already completed a concentrated, 14-week course of classroom and lab training, to include passing an extremely comprehensive check ride to qualify them as TAF/Metwatch forecasters. They then immediately have a positive impact on operations with oversight from a very experienced NCO or contract trainer. Subsequent training increments of much shorter duration (2-3 weeks) follow a proficiency period to qualify them in graphics production and flight weather briefings. Why are flight weather briefings last in the training regimen? In my view, it is because providing flight weather briefing information to aircrews is about as close as the OWS comes to the CWT mission and the MEF process. We want experienced forecasters who are well rounded in all aspects of OWS operations dealing directly with the flying customer. This philosophy accounts for the fact that they will be required to use all facets of OWS products to provide what basically amounts to a MEF, and should be trained in all supporting production roles for those products.

Finally, there is now ample time for CDC study

and personal time with supervisors while on shift in the OWS. We have designed shift schedules to allow approximately two hours per shift for CDC work and the supervisors and trainees always work the same shifts. We are hopeful this will lead to a better understanding of the study material and promote trust and mentoring in the ops areas.

This is a personal vision for OWS training. I know some of the other OWSs have implemented a similar strategy and they are finding success with it. The bottom line to all of this is to say that without well-designed, focused training, all the latest and greatest technology in the world will not make a difference in our operational capabilities. Science has not caught up with the art of meteorology and we still require the human forecaster to interpret information and arrive at forecasting decisions. Setting a strong technical foundation up-front through regimented training will pay huge dividends later in setting up the forecaster for success. And, of course, there are the intangible benefits such as job satisfaction, a sense of accomplishment, and mentoring. It takes commitment on the part of the OWS leadership to follow this training path because it would be very easy to succumb to manning pressures and basically rush through the training process. Again, you pay the price for this down the line

In summary, AFW reengineering offers outstanding promise for the future of our career field. Aligning our operational structure to conform with the standard military operations structure is the right decision and one that has been clearly embraced and supported by senior Air Force leaders.

But, along with the restructuring of our operations comes the responsibility to clearly lay out the roles and responsibilities for each echelon of weather support and then hold those organizations accountable for accomplishing their part of the mission. If we do nothing more than reorganize ourselves and then move tasks as they exist today to different organizations, I fear we will not realize the full benefits of reengineering.

We have an unusual opportunity here to fundamentally change the way we do business and finally place much needed emphasis on tactical, "bombs on target" forecasting. As I've already stated, I believe this is primarily the CWT role. With highly refined OWS products, access to and interpretation of real-time perishable data, an extremely experienced forecasting force, and an atmosphere that fosters teamwork with the customer, the CWT will be poised to execute the MEF better than at any other time in AFW history. As I alluded to earlier, if we choose instead to ask the OWS to develop singular, specific MEFs, I believe we run the risk of providing

mediocre support primarily due to the lack of one-on-one, real-time interface with the field customers and their command and control.

As I've already emphasized, training is equally important in the reengineering scheme. But we must be willing to make the commitment to take the time necessary to execute quality, objective-based training rather than rushing through the process just to generate another "trained" forecaster.

My involvement and participation in the Air Force and, in particular, Air Force Weather has

brought me great personal joy and professional satisfaction. I made a personal commitment to weather reengineering a number of years ago and have a vested interest in seeing it succeed. As there has always been, there are and will continue to be absolutely outstanding people in our profession, and the successful completion of reengineering will make them even more valuable to our nation's defense. I'm confident that we have the fortitude and courage to make the right choices for our future.

Godspeed and my best wishes to all of you. ♪

## Director dedicates *Grimes Room*

By John Murphy  
AFW History Office

The heritage and accomplishments of Air Force Weather personnel truly came alive for those attending a dedication ceremony of the "Grimes Room" at the Air Force Weather School, Nov. 16, 2000 at Keesler AFB, Miss.

Brig. Gen. David Johnson, Air Force Director of Weather, dedicated one of the school's classroom in honor of the late Col. Keith R. Grimes, a former combat weatherman. The classroom also honors others who served and will serve in the combat weather environment.

The staff at the facility, known as "the schoolhouse" to those in weather, said this is the first of many classrooms and hallways they plan to dedicate.

"Since we don't have the opportunity to teach about the history and heritage of those who have served before us, dedicating classrooms with different historical themes gives us another avenue to teach about our legacy," said Chief Master Sgt. Paul Leidig, superintendent of the weather training flight.

The ceremony opened with a reading of Colonel Grimes' impressive biography by Master Sgt. Joseph LeBouff, who also officiated the ceremony. General Johnson signed the documents that officially designated class-

room 225 as the Grimes Room after the reading of the biography.

"I think a sense of history, heritage and tradition is very important for people in the military," said the Director.

The general then went on to describe Grimes' importance to the "Son Tay Raid," a mission designed to release Prisoners of War from the Son Tay prison camp, Vietnam. He explained Grimes had the "go, no-go decision for the operation" which took place in November 1970, and Grimes recommended the mission take place one day earlier than planned because of the onset of typhoon conditions.

General Johnson stressed to the students the importance of weather in the success of the Air Force mission, noting that one day, they too could find themselves in a similar situation by saying, "I'm looking at future Grimes'."

Col. Grimes started his military career at the Combat Operations Center at Ramstein AB, Germany, in 1957 until he left active duty in 1960 and returned to school.

After getting his masters degree in geology from the University of Nebraska, he was recalled to active duty during the Berlin Crisis. His active duty assignments took him around the



Brig. Gen. David Johnson, accompanied at the lectern by Master Sgt. Joseph LeBouff, signs documents officially designating classroom 225 at the Air Force Weather school as the Grimes Room Nov. 16, 2000



## Outstanding, times two!

Col. Paul Harris, USAFE/DOW, recently recognized Michele Derocher (left) and Melanie Schneider (right) for outstanding job performance. As USAFE/DOW Information Managers, both individuals virtually run the USAFE/DOW Administrative, Information Management, and Orderly Room functions. They have both completed the six-week USAFE Computer Systems Manager Course and assumed division supply, equipment, computer systems management, and security management programs, thus allowing

DOW action officers to better focus on primary assigned duties.

Most recently, Derocher was the DOW focal point for the Combined Federal Campaign. She surpassed all USAFE goals; completing the program two weeks ahead of schedule and assuring 100% of the DOW, 7th Weather Squadron, and USAFE Operational Weather Squadron personnel were contacted. These two outstanding individuals are truly key members of the Air Force Weather Team.

## Grimes, continued

world. He was a staff weather officer for the Air Warfare Center at Hurlburt Field, Fla., in 1963. In June 1965, Grimes' next assignment was to Laos serving as a special liaison to the American Ambassador. He established an air-support system and a weather observing network manned by friendly forces. At the end of 1965, he was called to Washington to provide briefings to the Defense Staff on the status of forces in Laos.

Grimes then reported to the Air Command and Staff College at Maxwell AFB, Ala., where he

was honored as a distinguished graduate. He remained there as an instructor, and was promoted to lieutenant colonel in 1967.

In 1970, Grimes was selected to join a special joint-forces group of operators studying the feasibility of a raid on a prisoners-of-war camp in Son Tay, North Vietnam, in an attempt to free captured Americans. After receiving approval from the Joint Chiefs of staff and President Nixon in August, he joined the raiders and began intensive training at Eglin AFB, Fla. The mission was attempted in November, 1970.

In 1972, Grimes was assigned to Air Weather Service Head-

quarters. Two years later he was assigned as the commander of the 10th Weather Squadron, Thailand. Under his leadership, the unit provided weather support during the evacuation of troops from Southeast Asia, and the recapture of the USS Mayaguez in 1975. As a result of these accomplishments, the 10th won the AF Outstanding Unit Award.

In mid 1975, Lt. Col. Grimes returned from Thailand as member of the Military Airlift Command's War and Readiness Staff. The following year he was promoted to colonel. Tragically, Grimes died in an aircraft accident in September of 1977. ♣



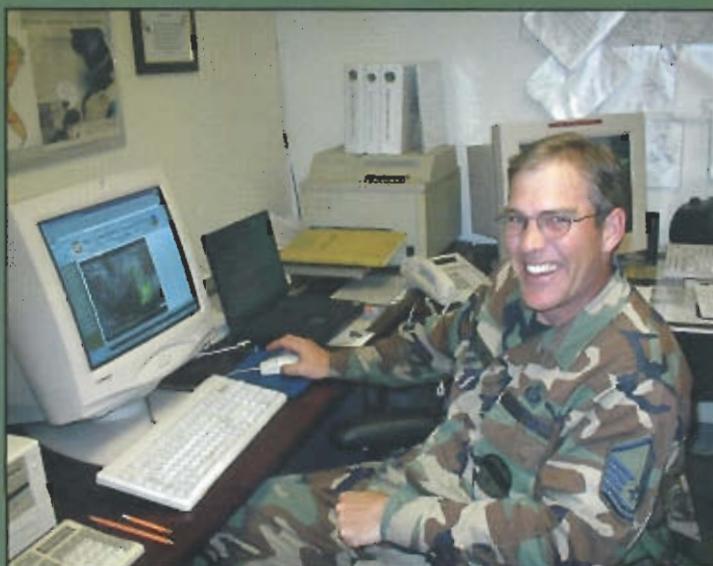
**Name:** Staff Sgt. Staci Coleman, Det. 10, 7th WS, Giebelstadt, Germany  
**Job Title:** Weather forecaster  
**Years in service:** 9 Years  
**Hometown:** White Plains, N.Y.  
**Hobbies:** Reading, Basketball, Music, Traveling, Severe Weather  
**Reason joined the Air Force:** The educational benefits and travel opportunities

**Personal motto:** Your failures in life come from not realizing your nearness to success when you give up!  
**Most memorable Air Force Weather experience:** My first forecasting assignment at Langley AFB is the most memorable. One week after becoming forecaster certified, Hurricane Fran, the third most costly hurricane in US history, knocked on the door to welcome me to the weather neighborhood. Afterwards, inclement weather just seemed to walk through the door with me. If I was on shift, you were sure to have either a cold funnel, a snow storm, an ice storm, a hurricane, or 1/2" hail.



## WEATHER WARRIORS

**Name:** Master Sgt. Randall Johnson, 18th WS, Simmons AAF, Ft. Bragg, N.C.  
**Job Title:** Chief, Weather Station Operations  
**Years in service:** 18  
**Hometown:** Deep River, Iowa  
**Family status:** Married  
**Hobbies:** Working in the yard  
**Reason joined the Air Force:** The time was right, and I wanted some adventure. (I've had it)  
**Personal motto:** If you are all wrapped up in yourself, you are probably over dressed.  
**Most memorable Air Force Weather experience:** Being promoted to Master Sergeant by a Lieutenant General.



# Air Force Weather SALUTES

## Retirements

**Master Sgt. Greg Bond**, 76th OSS/  
OSW, Kelly AFB, Texas  
**Master Sgt. David Easton**, 204th WF,  
McGuire AFB, N.J.  
**Master Sgt. Duaane Eifert**, 15th OWS,  
Scott AFB, Ill.  
**Master Sgt. Carl Frazier**, 15th OWS,  
Scott AFB, Ill.  
**Tech. Sgt. Catherine Cotton**, HQ  
AFWA, Offutt AFB, Neb.  
**Tech. Sgt. Andrea Preston**, 204th WF,  
McGuire AFB, N.J.  
**Staff Sgt. Jon Swift**, 204th WF,  
McGuire AFB, N.J.

## Awards and Decorations

### MERITORIOUS SERVICE MEDAL

**Col. David Smarsh**, HQ USAF/XOW,  
Pentagon (4th OLC)  
**Maj. Jay Fitzgerald**, HQ USAF/XOWX,  
Pentagon (2nd OLC)  
**Maj. Frederick Meyer**, 35th OSS/OSW,  
Misawa AB, Japan  
**Maj. Stephen Romolo**, HQ AMC/DOW,  
Scott AFB, Ill. (1st OLC)  
**Capt. Joseph Piasecki**, Det. 2, 10th  
Combat Weather Squadron, Fort  
Campbell, Ky.

**Chief Master Sgt. Penny Braverman**,  
HQ USAF/XOW, Pentagon, (5th OLC)  
**Master Sgt. Timothy Scheidt**, 92nd  
OSS/OSW, Fairchild AFB, Wash.

### AIR RESERVE FORCES MERITORIOUS SERVICE MEDAL

**Tech. Sgt. Robert Hathaway**, 140th  
WF, Willow Grove, Pa.

### AIR FORCE COMMENDATION MEDAL

**Tech. Sgt. Michael Gilbert**, Det. 2,  
10th Combat Weather Squadron, Fort  
Campbell, Ky.  
**Tech. Sgt. Robert Hathaway**, 140th  
WF, Willow Grove, Pa.  
**Tech. Sgt. Richard Jacobsen**, Det. 4,  
55th SWXS, Holloman AFB, N.M. (2nd  
OLC)  
**Tech. Sgt. Robert Tebben**, 89th OSS/  
OSW, Andrews AFB, Md.  
**Staff Sgt. Steven Adams**, Det. 2, 10th  
Combat Weather Squadron, Fort  
Campbell, Ky.  
**Staff Sgt. Kenneth Harris**, Det. 2, 10th  
Combat Weather Squadron, Fort  
Campbell, Ky.  
**Staff Sgt. Scott Maier**, 39th OSS/OSW,  
Incirlik AB, Turkey  
**Staff Sgt. Craig Musselman**, Det. 2,  
10th Combat Weather Squadron, Fort  
Campbell, Ky.

**JOINT SERVICE COMMENDATION MEDAL**

**Maj. Frederick Williams**, Air Force Combat Weather Center, Hurlburt Field, Fla.

**Tech. Sgt. George Catron**, 18th OSS/OSW; Kadena AB, Japan

**ARMY COMMENDATION MEDAL**

**Maj. Joseph McCormack**, 181st Weather Flight, Carswell Field, Texas

**AIR FORCE ACHIEVEMENT MEDAL**

**Tech. Sgt. Lamar Belton**, 140th WF, Willow Grove, Pa.

**Staff Sgt. Edgar Black**, 49th OSS/OSW, Holloman AFB, N.M.

**Staff Sgt. Davina Hardin**, HQ USAF/XOWR, Pentagon

**Staff Sgt. Andre Williams**, 18th OSS/OSW, Kadena AB, Japan

**Senior Airman Jerry Bingham**, 18th OSS/OSW; Kadena AB, Japan

**Senior Airman Jessica Bukovac**, 92nd OSS/OSW, Fairchild AFB, Wash.

**Senior Airman Mutahara Mobashar**, 21st ASOS, Fort Polk, La.

**Airman 1st Class Mitchell Westlund**, 18th OSS/OSW, Kadena AB, Japan

**JOINT SERVICE ACHIEVEMENT MEDAL**

**Senior Airman Robert Davis**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**ARMY ACHIEVEMENT MEDAL**

**Capt. Donald Miller**, 140th WF, Willow Grove, Pa.

**Staff Sgt. Greg Bell**, 140th WF, Willow Grove, Pa.

**Senior Airman Arneva Mason**, 49th OSS/OSW Holloman AFB, N.M.

**AF OUTSTANDING UNIT AWARD**

**121th WF**, Andrews AFB, Md.

**127th WF**, Forbes Field, Kan.

**AIR EXPEDITIONARY MEDAL**

**Maj. Blaine Asato**, 18th OSS/OSW, Kadena AB, Japan

**Maj. Frederick Williams**, Air Force Combat Weather Center, Hurlburt Field, Fla.

**Tech. Sgt. George Catron**, 18th OSS/OSW, Kadena AB, Japan

**Staff Sgt. Andre Williams**, 18th OSS/OSW, Kadena AB, Japan

**Senior Airman Jerry Bingham**, 18th OSS/OSW, Kadena AB, Japan

**Airman 1st Class Robin Bedford**, 18th OSS/OSW; Kadena AB, Japan

**ARMED FORCES EXPEDITIONARY MEDAL**

**1st Lt. George Lavine**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**Staff Sgt. Steven Adams**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**Staff Sgt. Allan Price**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**Senior Airman Robert Davis**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**HUMANITARIAN SERVICE MEDAL**

**Master Sgt. Andrew Hopwood**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**MILITARY OUTSTANDING VOLUNTEER SERVICE MEDAL**

**Lt. Col. Timothy Miner**, AMC/DOW, Scott AFB, Ill.

**Senior Airman Mutahara Mobashar**, 21st ASOS, Fort Polk, La.

### **FORECASTING APPRENTICE COURSE**

**Senior Airman Jana Brown**, 89th OSS/OSW, Andrews AFB, Md.

**Senior Airman Teresa Heisler**, 9th OSS/OSW, Beale AFB, Calif.

**Senior Airman Douglas Nickerson**, 181st Weather Flight, Carswell Field, Texas

### **ELECTRO-OPTICS DISTANCE LEARNING COURSE**

**2d Lt. Gary Mercer**, 354th OSS/OSW, Eielson AFB, Alaska

**Tech. Sgt. Ray Pelletier**, 354th OSS/OSW, Eielson AFB, Alaska

**Staff Sgt. Darrell Robertson**, 354th OSS/OSW, Eielson AFB, Alaska

### **WSR-88D PUP OPERATOR/MANAGER COURSE**

**Tech. Sgt. John Joyce**, 89th OSS/OSW, Andrews AFB, Md.

### **LONG RANGE SURVEILLANCE LEADERSHIP COURSE**

**Staff Sgt. David Mack**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

### **160TH SPECIAL OPERATIONS AVIATION REGIMENT SELECTION AND TRAINING COURSE**

**Senior Airman John Sheedy**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

### **SURVIVAL EVASION RESISTANCE ESCAPE COURSE**

**Senior Airman John Sheedy**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

### **FOREIGN JUMP WINGS (JORDANIAN, KUWAITI, YEMENI)**

**1st Lt. George Lavine**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**Staff Sgt. Allan Price**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

**Senior Airman Robert Davis**, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

### **AIR FORCE LONGEVITY SERVICE AWARD**

**Master Sgt. Glenn Zilkenat**, 89th OSS/OSW, Andrews AFB, Md.

**Tech. Sgt. William Baird**, 140th WF, Willow Grove, Pa.

**Senior Airman Jana Brown**, 89th OSS/OSW, Andrews AFB, Md.

## **Education**

### **7-LEVEL WEATHER CRAFTSMAN'S COURSE**

**Staff Sgt. Steve Balli**, 76th OSS/OSW, Kelly AFB, Texas

**Staff Sgt. Melvin Barnhill**, 21st ASOS/ASW, Fort Polk, La.

**Staff Sgt. Eric Jackson**, 92nd OSS/OSW, Fairchild AFB, Wash.

### **WATER SURVIVAL COURSE**

Senior Airman John Sheedy, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.

### **AWDS MANAGER COURSE**

Staff Sgt. Eric Jackson, 92nd OSS/OSW, Fairchild AFB, Wash.  
Staff Sgt. Hilton Wells, 21st ASOS, Fort Polk, La.

### **NEXRAD COURSE**

Staff Sgt. Jeffrey Thurman, 354th OSS/OSW, Eielson AFB, Alaska

### **AN/TMQ-53 COURSE**

Staff Sgt. Eric Jackson, 92nd OSS/OSW, Fairchild AFB, Wash.  
Senior Airman Wesley Martin, 92nd OSS/OSW, Fairchild AFB, Wash.

### **NCO ACADEMY**

Tech. Sgt. Oliver Fisher, 76th OSS/OSW, Kelly AFB, Texas  
Tech. Sgt. John Joyce, 89th OSS/OSW, Andrews AFB, Md.  
Tech. Sgt. Richard Jacobsen, Det. 4, 55th SWXS, Holloman AFB, N.M.

### **AIRMAN LEADERSHIP SCHOOL**

Senior Airman Collen Covert, 89th OSS/OSW, Andrews AFB, Md.  
Senior Airman Edwin Gideons, Det. 2, 10th Combat Weather Squadron, Fort Campbell, Ky.  
Senior Airman Keith Maslowski, 15th OWS, Scott AFB, Ill.  
Senior Airman Justin Mulholland, 15th OWS, Scott AFB, Ill.

### **BACHELOR'S DEGREE IN HUMAN RESOURCE MANAGEMENT, PARK UNIVERSITY**

Master Sgt. James Ellis, 15th OWS, Scott AFB, Ill.

### **BACHELOR'S DEGREE IN ATMOSPHERIC SCIENCE, WAYLAND BAPTIST UNIVERSITY**

Staff Sgt. Toby Grubbs, 354th OSS/OSW, Eielson AFB, Alaska

### **COMMUNITY COLLEGE OF THE AIR FORCE, WEATHER TECHNOLOGY**

Senior Master Sgt. Paul Rano, 15th OWS, Scott AFB, Ill.  
Staff Sgt. Richard Koch, 49th OSS/OSW Holloman AFB, N.M.  
Staff Sgt. Michael Palmer, 15th OWS, Scott AFB, Ill.  
Staff Sgt. Greg Strong, 39th OSS/OSW, Incirlik AB, Turkey

## **Promotion to Lieutenant Colonel**

Blaine Asato, 18th OSS, Kadena AB, Japan  
Kevin Callahan, 607th WS, Yongsan AIN, Korea  
John Coulter, XOWR, Pentagon, DC  
Jay Fitzgerald, XOWX, Pentagon, DC  
Derrill Goldizen, 18th ASOG, Pope AFB, N.C.  
Thomas Guinn, AFCCC, Ashville, N.C.  
James Hammett, XONP, Pentagon, DC  
Timothy Hutchison, XOWR, Pentagon, DC  
Chan Keith, AFWA, Offutt AFB, Neb.  
Vicki Michetti, TRANSCOM, Scott AFB, Ill.  
Bruce Shapiro, ACC/IG, Langley AFB, Va.  
William Spendley, JSOC, Ft. Bragg, N.C.  
Louis Zuccarello, 15th OWS, Scott AFB, Ill.

# COIN CORNER



**Staff Sgt. Mario Franklin**, Primary Funds Control Monitor for AFWA and Budget Analyst for AFCCC, AFCWC, Det. 7, and ESC received a coin from the General for extraordinary customer service to the resource advisors by simplifying procedures and allowing each unit to allocate funds where necessary.

**Tech. Sgt. Stephen Heywood**, Det. 5, 55th SWXS, Palehua, Hawaii, received a coin from the General for his work at the solar site. He handled sixteen event level bursts and sweeps with a 100% accuracy rate.



**Tech. Sgt. Carol Andersen**, Operations Division, AFCWC, Hurlburt Field, Fla., received a coin from the General as a member of the Army New Equipment Training Team responsible for initial fielding and training of the IMETS system worldwide.

## Promotion to Chief Master Sergeant

**Paul Leidig**, 335th TRS/UOA, Keesler AFB, Miss.

**Phillip Roseberry**, 25th OWS, Davis-Mothan AFB, Ariz.

**Dale Roth Jr.**, AFWA, Offutt AFB, Neb.

## Promotion to Senior Master Sergeant

**Ralph Barrett**, 607th WS, Yongsan AIN, Korea

**Patrick Flieg**, 26th OWS, Barksdale AFB, La.

**Ralph Getzandanner**, AFWA OL-A, MacDill AFB, Fla.

**Ronald Kommer, Jr.**, HQ ACC, Langley AFB, Va.

**Lorne McClard**, AFWA, Offutt AFB, Neb.

**David Rose**, HQ AMC, Scott AFB, Ill.

**Richard Spears**, HQ PACAF, Hickam AFB, Hawaii

**David Taylor**, HQ USAFE, Ramstein AB, Germany

**Tony Taylor**, 335 TRS, Keesler AFB, Miss.

**Jack Tones, Jr.**, AEFC, Langley AFB, Va.

## ANG Promotions

Promotion to:

### Lieutenant Colonel

**Tina Smith**, 209th WF, Camp Mabry, Texas

### Major

**John Sliney**, 195th WF, Channel Islands, Calif.

### Senior Master Sergeant

**Laura Clark**, 116th WF, Camp Murray, Wash.

### Master Sergeant

**Richard Webb**, 126th WF, Milwaukee, Wis.

**Terry Upchurch**, 159th WF, Camp Blanding, Fla.

### Technical Sergeant

**Christopher Fitts**, 123rd WF, Portland, Ore.

**Joseph Korotko**, 107th WF, Selfridge ANGB, Mich.

**Willie Robertson**, 195th WF, Channel Islands, Calif.

**David Spens**, 107th WF, Selfridge ANGB, Mich.

**Kathleen Weinman**, 121st WF, Andrews AFB, Md.

**Alexander Good**, 164th WF, Columbus, Ohio

**Darrel Onizuka**, 199th WF, Wheeler AAF, Hawaii

**Bertrand Sausee**, 122nd WF, Hammond, La.

### Staff Sergeant

**William Bornhorst**, 123rd WF, Portland, Org.

**Johnny Hobbs**, 164th WF, Rickenbacker ANGB, Ohio

**Rodney Webber**, 146th WF, Pittsburgh, Pa.

**Jessica Dahlquist**, 159th WF, Camp Blanding, Fla.

**Kelly Mason**, 200th WF, Richmond, Va.

**Valerie Tawa**, 202nd WF, Otis ANGB, Mass.

### ANG note:

The correct mailing address for the ANG/DOOSW is:

ANG/DOOSW  
1411 Jefferson Davis Highway  
Arlington, VA 22201-3231

and the correct message address is:  
ANG WASHINGTON DC//DOOSW//

