



Mar/Apr '04
Vol. 30, No. 2

The Magazine for Air Force Weather

Observer



**Pacific Air
Forces--
From
Snow
to Sun**



Observer

The Magazine for Air Force Weather

EDITORIAL STAFF

AIR FORCE

DIRECTOR OF WEATHER

Brig. Gen. Thomas E. Stickford

AIR FORCE WEATHER

AGENCY COMMANDER

Col. Charles L. Henson, Jr.

PUBLIC AFFAIRS

Paige D. Hughes, Director

Jodie A. Grinsby, Deputy Director

Christy L. Harding

OBSERVER EDITOR

Master Sgt. Miles Frowns

This funded Air Force 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. The editorial content is edited, prepared and provided by the public affairs office of the Air Force Weather Agency, Offutt AFB, Neb. All photographs are Air Force photographs unless otherwise indicated. All written material and photos must arrive by the first week of the month prior to the publication date to be considered for publication.

HQ AFWA/PA

106 Peacekeeper Dr., Ste. 2N3

Offutt AFB, NE 68113-4039

CMCL: (402) 294-3115

DSN: 271-3115

Observer E-mail:

Observer@afwa.af.mil

AFW Public Access Site:

<http://afweather.afwa.af.mil>

What's Inside:

Operational Weather Squadron's Area of Responsibility Defined 7

OWS's forecast areas defined by Air Force Weather IPT.

So How Many? 9

Air Force Weather's Functional Area Manager answers the question of how many weather personnel deployed for Operation Iraqi Freedom.

Making the Connection 11

Iridium and TMQ-53, two capabilities brought together to make weather observations from anywhere in the world an automatic reality.

Setting the Standard 13

The Air Force Weather Standardization and Evaluation team ensures weather units are providing the best possible product to the warfighter and assists in identifying avenues for improvement.

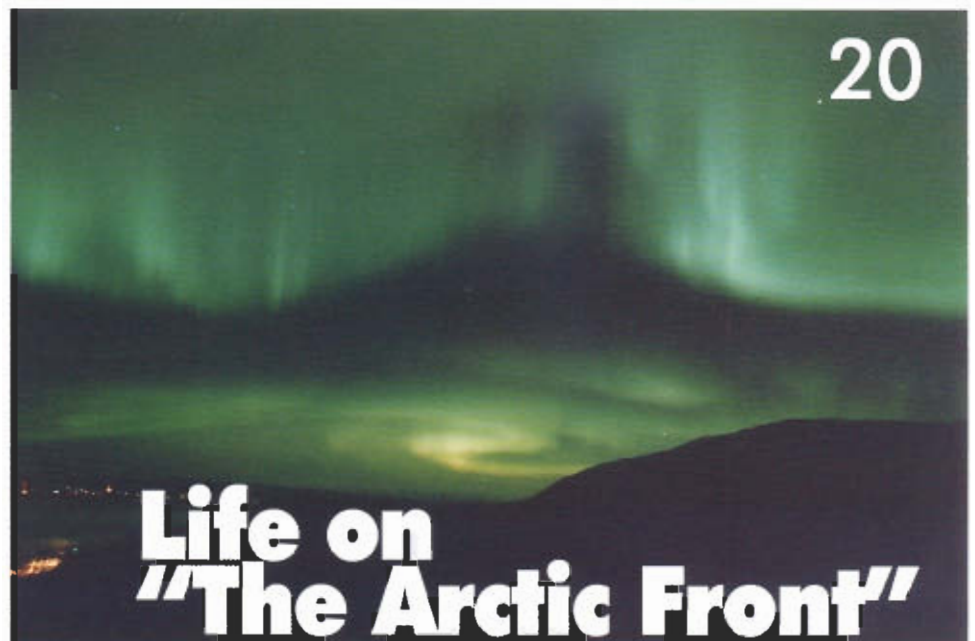
Vital Mission, a Tropical Paradise

The Heritage of the Headquarters 26

A historical look at Air Force Weather Agency, first activated and designated the Weather Wing in 1943.

Teaching Lightning Safety, Saving Lives 33

Lightning is the second leading cause of storm deaths in the United States. Meteorologists can play a decisive and profound role in the battle against lightning casualties.



Life on "The Arctic Front"

Editorials

Making the Most of Your Career 4

Distinguished Visitor Direction 6

On the Cover

This photo illustration shows Staff Sgt. Dominique Atkins taking a weather observation with a Kestrel. The March/April issue of the *Observer* highlights the Pacific Air Forces weather team, showcasing not only their mission but also a truly diverse area of responsibility. The men and women of PACAF provide complete situational and environmental awareness for more than 100 million square miles, that range in temperatures from 104 F to 43 below zero F. The PACAF weather team has more than 435 people in 28 locations.



From the Field: Making the Most of Your Career

by Lt. Col. Jay Fitzgerald
11th Operational Weather Squadron,
Elmendorf AFB, Alaska

There are several burning questions men and women have asked for the better part of eternity. Questions like...What is the meaning of life?...Is there intelligent life on other worlds?...Will the Red Sox ever win a World Series??? And I saved the biggie for last...How can I get ahead in my career???

Of course everyone knows that the real key to a happy and comfortable life is to do well at the paycheck factory. Doing well is reflected in increased responsibility. And increased responsibility, gracefully shouldered, contributes to increased rank and thus increased money. And from that money comes the life-giving sustenance that only a big-screen TV or a powerboat can provide. So, I think it's safe to say we all want to be successful.

So, what's the secret to getting ahead? The secret is...drum roll please...there is no secret! If you asked 100 certified "successful" senior non-commissioned officers and senior officers, you'd probably get 100 different success stories. Some of them are super-smart, some are more...how shall we say..."talented in other ways." Some never ventured outside their career field, while others seemed to spend as much time outside their career field as in it. Some worked hard to make it to the top, sacrificing much along the way, while others had it relatively easy and sacrificed little. So, there really is no common theme, and no sure-fire recipe for success.

But looking back on my brief time in the Air Force, I have seen some trends—some common factors that most successful enlisted and officers have. With this in mind, here are Jay Fitzgerald's "Top 10" tips on how to get ahead in the Air Force:

No matter what your job is, do it the best you can. That's an obvious one. As a kid I recall my Dad telling me, "Even if you're going to be a garbage man, be the best garbage man." Sorry Dad...I ended up being a weatherman instead.

Record your accomplishments at least weekly, then print out your 10-page list at enlisted performance report time. This tip falls into the category of "self-preservation"; your supervisor can't possibly know everything you've done over the past year.

Learn your craft early on—you won't have time later on. Whether you're an officer or enlisted, as you move up the food chain, you'll be moving farther and farther from "where the rubber meets the road." If you don't take the time to learn your meteorology as a lieutenant or airman, chances are you never will.

Complete your Professional Military Education as soon as possible. You never know when a good deal may come along, and PME completion may set you apart from the pool of other eligibles. At a minimum, it is looked at for promotions (especially below the zone), job opportunities, and date of your earliest possible return from overseas extensions. Proactive completion of your education is often a tiebreaker.

Seek out any competitively selected opportunities (i.e. schools, special duties, leadership, etc.). The "tiebreaker" category. Anyone who has sat on a board can tell you, there are people with your qualifications. Even though I know for a fact that you have a red "S" on your chest, through the magic of performance report inflation, so does everyone else. The only thing that can't be faked are competitively selected positions.

Learn to communicate clearly—speaking and writing. Let's face it, to an outsider an inability to communicate looks like ignorance. And although promotion rates are up, sadly ignorance is still not rewarded in today's Air Force. If you are an ineffective public speaker, I recommend you practice and overcome it. If your emails are sloppy, and have lots of misspelled words, keep in mind that you are probably coming across as either partially illiterate or completely careless.

Don't stay in one job, one location, or one MAJCOM too long. Even in this era of anorexic budgets, the Air Force still frowns on homesteading. Not only does it reduce the influx of new ideas to your unit, but it also restricts your professional development. Why? If you don't learn new skills, your value to AFW will remain in narrow "lanes."

Remember, much of what is incorrectly attributed to "talent" is really just experience—try to maximize your experience! I heard this one from Gen. Lloyd "Fig" Newton, former Air Education and Training Command Commander, during a

Wing visit, "I'm not smarter than anyone else, I've just seen a lot of [stuff.]" The point here was an incredibly successful man...Vietnam war hero...former Thunderbird pilot...and his secret to a successful career? Seeing lots of "stuff." The more you see, the more you learn and the more smart answers you have.

Learn from the bad leaders you suffer through, as well as the good ones. As a young flight commander, I suffered through not one but two bad leaders. One was my squadron commander, and the other one was your humble author. Rather than dwell on a rough assignment, I made mental notes on what NOT to do if I ever got a chance to lead again. I did, and in the end that horrible three years made me a much more effective leader.

And finally...be grateful for what you have. Why? You've achieved something that not many get to do—you are a card-carrying member of the single greatest team...the equivalent of being on the team that won the World Series or won the Super Bowl. Out of the billions of people on this planet, most of who lead not so pleasant lives, you were lucky enough to be born in America. And within this great nation, you are a star player on its most-respected institution—the military.

So hold your head high! You've already made it to the top! Go ahead and celebrate! Smile wide and scream out loud! Jump into the arms of your co-worker, hoisting your finger to the sky...you are #1. Call your other teammates over, and have them jump on the two of you. Pop the cork. Gatorade the coach. You're already the greatest. Savor it! 🍾

Personnel Crosscheck: Are Your Records in Order?

by Capt. Chad Schrecengost
Chief, Personnel Programs Division, Air Force Weather
Agency, Offutt AFB, Neb.

Every individual has the responsibility to ensure that their own personnel information and records are in order. In today's Air Force, where technology triumphs, it is easier than ever for members to verify the accuracy of their personnel information from a work or home PC. Listed below are some of the online resources available to verify personnel data and actions:

AFPC Homepage (<http://www.afpc.randolph.af.mil>) – Dedicated to providing information on officer, enlisted, and civilian personnel matters to include assignments, promotions, education and training, and readiness issues.

vMPF (<https://ww3.afpc.randolph.af.mil/vmpf>) – Located on AFPC Secure and an avenue to verify information, and complete voluntary personnel transactions. Applications include: duty history, awards/decorations, data verification brief, out processing, virtual record of emergency data, case management system for pay discrepancies, and certain assignment special actions. Visiting the vMPF online should be a member's first step in verifying personnel information.

Assignment Management System (<https://afas.afpc.randolph.af.mil/amsweb/master.cfm>) – Available for members to access SURFs, transitional officer development plans, EQUAL and EQUAL-Plus for enlisted special assignments, personnel requirements display, vulnerable mover lists, and eVector. Members should verify the currency of all information on AMS to ensure assignment situational awareness.

Air Force Contact Center – Available, 24/7, online (via AFPC Homepage) and over the telephone (DSN at 665-5000; Commercial at (210) 565-5000; Toll free at 1-800-616-3775) to

assist with any personnel question. Members can submit questions online, chat online, review frequently asked questions, or speak to a live representative over the phone.

Keep in mind that we still may need to contact our servicing Commander's Support Staff and/or Military Personnel Flight to correct any omissions or errors. In fact, the resources mentioned above may refer us to the CSS, MPF, or other offices to fully resolve our query. In such cases, it is a good idea to have appropriate source documents handy when attempting to update or correct inaccurate data. Listed below are offices or agencies that can assist with in-person needs:

Commander Support Staff – Required first stop for completing unit-level personnel actions. The servicing CSS, in many cases, can process updates to duty titles, changes of reporting officials, general duty status, and leave data. The CSS can assist in processing certain pay and off-duty employment requests.

Military Personnel Flight – Many personnel actions will require a visit or communication with the servicing MPF. Our initial point of contact should be the customer service element, where queries on dependent data updates, casualty assistance, and unit personnel record groups can be fielded. Further actions may require the assistance of a career enhancements element, where service date discrepancies can be reconciled, reenlistment and extension actions can be processed, and test control functions may be accomplished.

Education Office – The nearest servicing base education office should be our first stop to assist us in updating and correcting any education data. Please note that the Air Force Institute of Technology is the single-source for updating professional military education for officers. AFIT counselors may be contacted via DSN at 596-4147 or commercial at (937) 255-7291.

All in all, the most important fact to remember is that we must be proactive in ensuring our records are correct and up-to-date. Do not wait until the last minute prior to promotion boards or assignment cycles to check and if needed correct personnel data—it may be too late! 🍾

Chief's Mentoring: Distinguished Visitor Direction

by Chief Master Sgt.
Penny Brovermon
Enlisted Matters Chief,
Air Force Weather

The phone rings and you answer. On the phone is the executive officer for a general officer. He informs you that the general will be visiting your office. Initially, you're filled with pride having been selected to host this distinguished visitor. You write down the dates and hang up the phone. You smile to yourself, pleased with your importance and then it hits you, you've never hosted a DV before and you have no idea where to begin.

Sound familiar? Sooner or later, this situation will arise and the tools outlined here will get you on track to enjoy the visit and impress the general officer.

First, treat any visitor, general officer or not, as you would like to be treated; an old cliché but true. Start the planning with a call to the installation protocol office. The protocol office provides guidance with billeting, transportation and the formalities of handling a DV. As a courtesy, provide the protocol office telephone number to the visiting persons executive officer.

With the protocol office notified and ready to assist, the next step is to pick up materials to assist you in planning the visit. Most military installations have written guidance on the subject and the protocol office should direct you to those resources. Check the web for "Til Wheels are Up", the Air Force protocol

bible (<http://www.afpc.randolph.af.mil/ccp/>). The Army Pamphlet 600-60 "A Guide to Protocol and Etiquette for Official Entertainment" and Army Regulation 600-25 "Salutes, Honors, and Visits of Courtesy" both provide guidance on planning distinguished visitors on Army installations.

A lot of planning and a little flexibility go a long way in preparing a DV visit. With the appropriate materials in hand and the backing of your protocol office, you are on track for hosting a great visit.

Quick Guide:

Hotel

Confirm the hotel or billeting arrangements a few days prior to the DV arrival. Make a note of check-in and checkout times and the associated fees. Ask the front desk if you can see the room and make sure all electronics are operable and whether or not the room has internet access. Make arrangements to place welcome letters and read ahead material in the room. Plan to get the key to the room prior to the arrival. Include the hotel phone number on the DV itinerary for quick changes.

Transportation

If the visitor is getting a rental car, be sure to provide detailed maps in the preliminary package. More often than not, you will be responsible for picking up the visitor at the airport. Reserve a government vehicle through the installations transportation office. Ensure the vehicle will adequately fit all the members

in your DV's party and their luggage. Be at the airport 30 minutes prior to landing and have a sign with the DV's name. You may want to appoint a designated driver if the visit will be two or more days.

On a military flight line, salute the plane on arrival, and then salute the DV. The junior person enters vehicle first and the senior person exits the vehicle first. Make arrangements on where to meet the DV when picking up at a commercial airport. Build transportation time into the schedule. Drive the route to ensure timing and keep traffic in mind.

Courtesies

Provide the full rank and name of the personnel involved in the DV schedule. When applicable, include spouse and children's names. Brief your personnel on introduction etiquette and ensure they use their rank and full name when meeting the DV. Remind personnel to use "Sir" or "Ma'am" when addressing a DV. Call the room or building to attention as the DV enters and exits. Have the DV's desired refreshments available in longer briefings.

Schedule

Schedule 15-minute office calls with installation leadership when applicable. Allow more time for issues that may need to be discussed. Obtain a copy of biographies on leadership the DV will be meeting, and provide background information on any issue that will be discussed. Build appropriate free time and breaks into the schedule. The DV's executive officer can assist you with appropriate length. ☺

Operational Weather Squadrons Defined

by Paige Hughes
Public Affairs, Air Force Weather Agency,
Offutt AFB, Neb.

A few keen weather members pointed out the Operational Weather Squadron Area of Responsibility map in the 2004 Observer Almanac, page 21, is incorrect. The map here is the correct version of the Air Force Weather OWS AORs, AFVA 15-137 and can be downloaded at <http://www.e-publishing.af.mil> in the Air Force Publication Series 15; Weather. This version was approved September 2003 by Air Force Operations Directorate.

The OWS AOR map is based loosely on the Unified Command Plan's AOR, with minor variances for meteorological purposes.

"We tried to keep the weather in mind when the map was being divided up," said Senior Master Sgt. Mark Redford, XOW plans and programs, and the person who actually put the lines

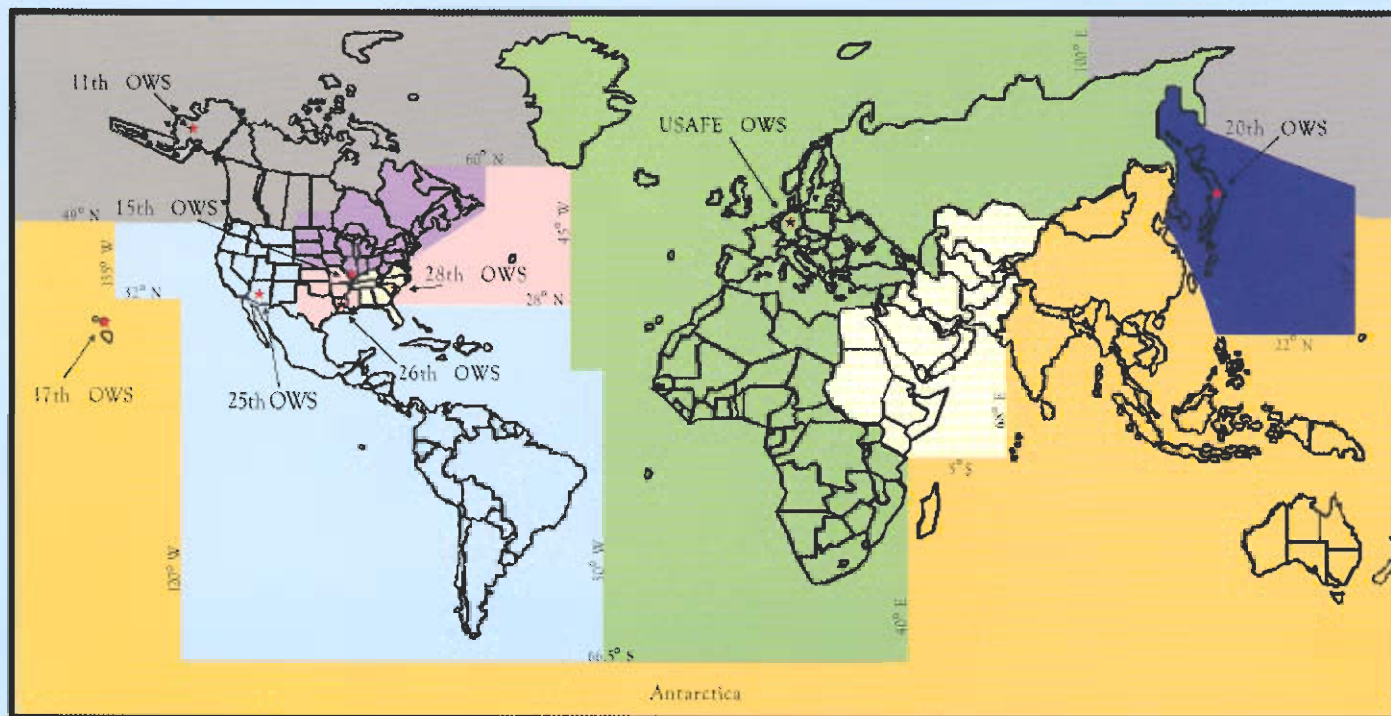
on the paper. There is a dividing line through the panhandle of Nebraska that may leave many of you wondering.

"The 25th OWS wanted that area because of the F.E. Warren AFB radar sites there that they warn for," Sergeant Redford said.

The areas of responsibility were discussed and finalized during a policy IPT in July 2003 with MAJCOM and OWS commanders. They were based on the UCP, workload, commander plan and meteorological events.

According to Sergeant Redford, few changes are expected in the coming years. "We may see Shaw's AOR change slightly with the addition of a few countries but we won't know until next year," said Sergeant Redford.

The policy IPT meets annually and holds annual teleconferences. ♪



11th OWS-Elmendorf AFB, Alaska (PACAF)

15th OWS-Scott AFB, Ill. (AMC)

17th OWS-Hickam AFB, Hawaii (PACAF)

20th OWS-Yokota AB, Japan (PACAF)

25th OWS-Davis-Monthan AFB, Ariz. (ACC)

26th OWS-Barksdale AFB, La. (ACC)

28th OWS-Shaw AFB, S.C. (ACC)

USAFE OWS-Sembach AB, Germany

Fixing the Forecast

Keeping Weather Systems on-line

by Airman 1st Class Tim Beckham
Public Affairs, 379th Air Expeditionary Wing,
Al Udeid AB, Qatar

The forecast is in and when it comes to climate assessment in the region, a lot of the weight falls on two men's shoulders.

Tech. Sgt. Steven Smathers, 4th Expeditionary Air Support Operations Group Weather Systems Support Cadre team leader, and Master Sgt. John Houghton are a two-man mobile maintenance team responsible for all weather gathering equipment throughout the area of responsibility.

Sergeant Smathers, who belongs to the 31st Combat Communications Squadron out of Tinker Air Force Base, Okla., maintains, troubleshoots and repairs all weather equipment this region has fielded.

"We assist in trouble calls and (with) e-mails and assist weather forecasters in troubleshooting. We have

ordered parts, tracked them from the states and found a way to get them to the units that need them no matter where they may be," said Sergeant Smathers.

The main piece of equipment Sergeant Smathers has had to fix in his travels while deployed is the AN/TMQ-53, which does everything from determining wind speed to lightning detection.

"The AN/TMQ-53 gives you your wind speed and direction, the temperature and humidity, barometric pressure, rain rate, lightning detection and cloud height," said Sergeant Smathers.

When weather equipment breaks, the process of fixing it varies in time and difficulty.

"Some (repairs) are simple and some aren't," said Sergeant Smathers. "I've made some repairs in a minute and a half, while others have taken

me over a day to fix."

Without him the mission wouldn't come to a complete halt, but it would be impaired.

"Without us being in place to provide troubleshooting when a unit is having difficulties, (the units) would have to wait and the problem or difficulty they were having with their weather system could impede troop movements, helicopter flights or even aircraft flights out of a given location," said Sergeant Smathers.

"With us being in the AOR they can either e-mail us or give us a call and we can usually walk them through the problem and then to a state where they can at least continue on with their jobs."

Sergeant Smathers and Sergeant Houghton have been to just about every country and helped fix weather equipment from every unit in the AOR. In their travels they have had many unique experiences.

Sergeant Smathers said he placed equipment on top of one of Saddam Hussein's palaces and even fished in one

of his lakes.

"It was kind of interesting seeing how (Hussein) had been living and being on the fifth floor of his palace. You got a good view of what the palace grounds looked like," said Sergeant Smathers.

With their job requiring them to be ready to travel on a moment's notice, Sergeant Smathers said it's important to travel light.

"We carry as little as we can, but we hand-carry many parts to their destinations," said Sergeant Smathers, "the parts can be as small as a laptop power supply and as large as a computer UPS weighing up to 70 pounds."

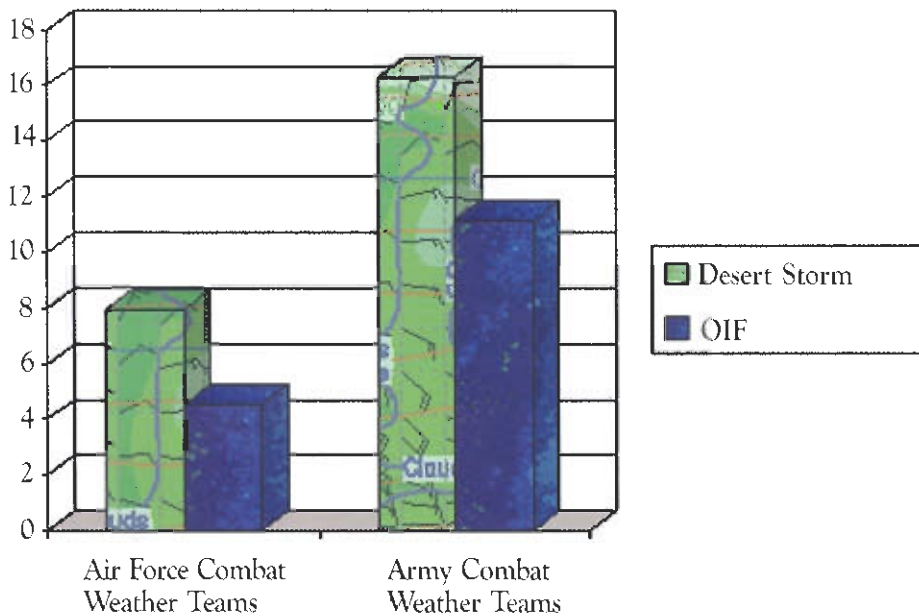
Sergeant Smathers has worked with every branch of service and some coalition forces since he arrived in theater in August.

The next time dark clouds linger overhead, or the sun creeps up over your tent, remember the WSSC. They are an important part of the equation when it comes to predicting the weather, and such an integral part of using weather knowledge to dominate the battlespace. ♣

So... How Many?

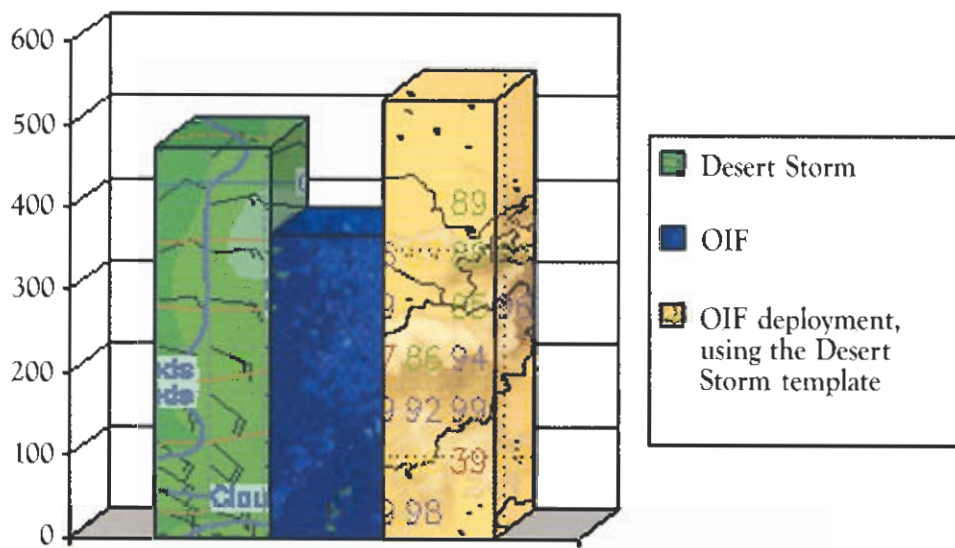
by Lt. Col. Kevin Trissell
Chief, Combat Plans and Joint Policy,
Air Force Weather

*Why are
so many
weather
people
deployed
these days?*



This chart shows how the average size of a weather team in both Desert Storm and Operation Iraqi Freedom. In Desert Storm the average Air Force Combat Weather Team was 7.9, in OIF it was 4.5. In Desert Storm the average Combat Weather Team working with the Army was 16, in OIF it decreased to 11.3.

This is a question the Air Staff gets almost daily from field units. **Fact:** Comparatively, we are sending fewer people downrange now, then we did in the past-based on how we size weather deployment teams. **How do I know?** It's my job: I am the functional area manager for Air Force Weather.



During Desert Storm 473 members of Air Force Weather deployed. With re-engineering completed the total number of weather personnel deployed for OIF dropped to 366. Without re-engineering the number of deployed weather personnel, using the Desert Storm template, would of been 530 people.

AFMAN 10-401, VI, defines FAM as "the person responsible for management and planning of all personnel and equipment within a functional area to support wartime contingencies." In my role as the career field FAM, I track and respond daily to numerous issues concerning the way the career field responds to the current contingency requirements. Despite the pressures of the moment, sometimes it's important to take a step back and take a look at the big picture.

I have worked AFW deployments both before and after AFW re-engineering and the Air Force Expeditionary Force concept. One of the goals of re-engineering has been to decrease the size of deployed weather teams. Operation Iraqi Freedom really stressed our deployment resources and gave us an opportunity to determine if we had indeed reached our goal of reduced deployment footprint. Let's start by comparing weather support provided during OIF and Desert Storm.

The source of my deployment numbers for the first Gulf War is an excellent Air Weather Service study: "An Analysis of AWS Support to Operations Desert Shield/Desert Storm, December 1991."

Although this is a classified report, the deployment numbers are unclassified. The report will remind you just how far we have progressed in the military weather business in just over a decade. It is well worth reading for historical perspective.

Since becoming the FAM I have tracked the number of AFW personnel deployed worldwide. As many of you know from personal experience, our ops tempo increased significantly since Sep 11, 2001. We saw another increase with the onset of Operation Iraqi Freedom. This is reflected in our deployment numbers, which peaked in April 2003, with 471 weather personnel deployed worldwide.

February 1991 was the peak for Desert Storm weather deployments, with 473 personnel deployed. At first blush, it might appear we have failed in reaching AFW re-engineering goal. But a closer examination reveals a different story. Of those 471 deployed during OIF, 105 were actually deployed to locations other than the OIF Area of Operations—largely a function of the Global War on Terrorism. This means only 366 personnel out of the 471 deployed to the OIF AOR. That's 107 fewer than during Desert Storm.

A better comparison is the actual size of the weather teams. Here is the good news: The average Army support weather team decreased from 16 to 11.3 personnel, a 32 percent reduction. The average Air Force support weather team decreased from 7.9 to 4.5 personnel, a 43 percent reduction. Without reengineering and the ability to reach back to a supporting OWS, we would have had to deploy 164 MORE people than we did in April 2003.

Any way you look at it, a reduction of 164 personnel with the same level of meteorological service to the warfighter is a success. No doubt about it, AFW re-engineering reduced our deployed footprint in a big way. Take it from the FAM! ♣

Making *the* Connection:

Iridium and TMQ-53

by Paige Hughes
Public Affairs, Air Force
Weather Agency, Offutt AFB,
Neb.



Two capabilities brought together make weather observations from anywhere in the world an automatic reality.

The TMQ-53 provides real-time weather observations to the standard system laptop running Automated Observing System client software.

The Iridium 9505 modem generates an L-Band radio frequency signal to push data through a cable connected to an externally mounted omnidirectional antenna, which transmits data to one of the 66 Iridium satellites.

Weather observations are routed across the constellation until it reaches a satellite over the DoD Iridium gateway in Hawaii.

Used together, the newly tested system is the satellite communication solution for the TMQ-53 and fulfills the Observing System 21st Century operational requirement to automatically transmit from a deployable observing system.

Air Force Combat Weather Center, Hurlburt Field, Fla., evaluated the system extensively during the summer and fall of 2003 and ultimately

experienced an overall average successful transmission rate of 98 percent. The mission of AFCWC includes enhancing combat weather teams effectiveness by examining emerging technologies, innovative ideas, and weather warfighting requirements.

Three objectives were used by AFCWC to evaluate the Iridium modem's suitability and effectiveness; success of observation transmission, overall ease of use, and minimize modifications required to existing fielded systems to implement.

"A lot of weather units

This Feb. 11, 2002 photo shows the Delta II rocket as it makes it's way into the upper atmosphere above Vandenberg AFB, Calif. The rocket carried five of the now 66 Iridium satellites that make up the Iridium satellite constellation allowing people to communicate with anyone, anytime, anyplace on earth. In addition to the operational satellites, there are six satellites in orbit as back up. The satellites typically have a lifespan of six to nine years. The low-earth orbiting Iridium satellites have an orbit height of about 485 miles. Delivering essential communications services to and from remote areas where terrestrial communications are not available, Iridium transmits at 2.4 kilobits per second. Photo by Thom Bour, courtesy of the Boeing Company.

have the Iridium phone but the modem is a new capability," said Staff Sgt. Tim Dixon, a satellite communications expert at AFCWC and a key evaluator in testing the TMQ-53/Iridium modem concept.

Additional drivers and software were loaded onto the TMQ-53 to allow the Iridium modem to operate on the laptop. The software must be loaded onto fielded laptops to

allow the modem to operate properly.

AFCWC used the enhanced version of the TMQ-53 encompassing the basic sensors, present weather detector, cloud height indicator, and lightning detector.

The observations were down linked to the DoD gateway where it is FTPed via Non-Secure Internet Protocol Router Network to Air Force

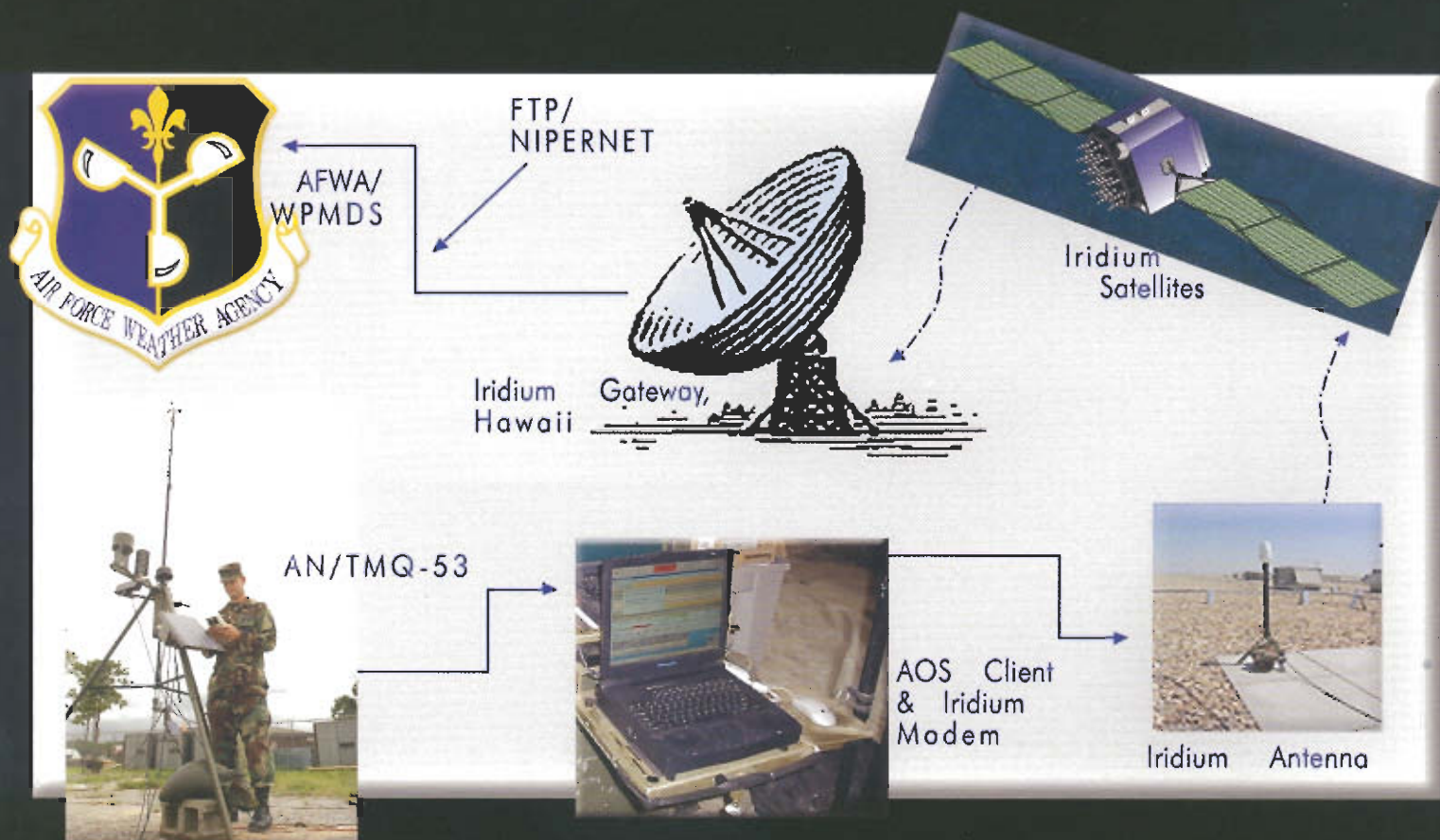
Weather Agency Weather Product Management and Dissemination System.

The performance was measured by comparing the total number of observations the AOS produced in a 24-hour period against the number of observations that were available for viewing on Joint Air Force and Army Weather Information Network.

"The plan is to make it as

easy as possible, to plug and play the system," Sergeant Dixon said of the installation. The units receiving the modem will need minimal training which will be arranged through AFWA's training division.

The Iridium modem capability should be fielded to weather units this fall. ♪



This diagram shows the equipment and architecture used to get an observation from the field back to AFWA. First, the AN/TMQ-53 provides real-time weather data to the standard system laptop running AOS client software. Second, AOS client software displays the data and generates METAR and SPECI reports based on user-defined intervals and thresholds. Next, the Iridium modem recognizes when AOS initiates a File Transfer Protocol push to send an observation. The modem transmits the observation, the data, through a pole-mounted antenna to the Iridium satellite constellation. Then, weather observations travel across the Iridium constellation, consisting of 66 Low-Earth Orbiting satellites, until it reaches a satellite within view of the DoD Iridium Gateway located in Wahiawa, Hawaii where it is down linked. Finally, from the DoD Iridium Gateway, the observation travels via NIPRNET to the WPMDS at AFWA.

Setting the Standard

The Air Force Weather Standardization and Evaluation team ensures weather units are providing the best possible product to the warfighter and assists in identifying avenues for improvement.

by Chief Master Sgt. Jeffrey Fries and Senior Master Sgt. John Andrews
Standardization and Evaluation Team,
Air Force Weather Agency, Offutt AFB, Neb.

The Air Force Weather Agency's standardization and evaluation team has completed their swing through the PACAF Operational Weather Squadrons and has wrapped up the first round of visits to all eight operational weather squadrons. Completing this round of visits puts the period at the end of the sentence, closing out the "re-engineering" chapter in our history.

The standards evaluators will summarize the findings and identify avenues for improvement of weather operations policies and procedures. The standards and evaluation program is continuous and cyclical. This permits rapid infusion of lessons learned, best practices and resolution of system-wide problems into redevelopment of the way we govern weather operations.

Today's stan/eval program has its roots in the evaluation program established in 1996. It measured compliance with published guidance and evaluated the technical health of base weather stations following the disbanding of the numbered weather squadrons and wings. In a two-year period, the twelve members of the Air Weather Service stan/eval division visited the 154 base weather station units.

Information gathered from these visits was key to identifying operational and training shortfalls that could not be corrected by the current operations concepts. The early standards evaluators were cast in the role of "enforcer" and "problem identifier." For

the next generation, we needed to take this a bit further to ensure continuous improvement of processes and procedures.

During AFW re-engineering, weather stan/eval process was stood down until the new operations concept had a chance to mature.

Following revision of Air Force Instruction 15-180 in 2001, AFWA established the Standard-

ization and Evaluation branch in the Field Support Division of the Operations Directorate. This generation of stan/eval borrows heavily from other AF Standards Evaluation Programs, with the Major Commands managing stan/eval visits to tactical level units and the HQ AFWA stan/eval team evaluating operational and strategic level weather units. Most importantly, evaluators are also responsible for developing and maintaining Air Force 15-series weather operations manuals and instructions.

The stan/eval program has four main goals: First, ensure that deployed and garrison weather operations are executed to guarantee mission success. Second, provide commanders a graded, independent, objective measurement of compliance with appropriate directives. Third, benchmark and crossfeed innovative ways in accomplishing the mission. Finally, report on, and provide guidance concerning trend information, system improvements, and class problems for higher headquarters consideration.

Why have a stan/eval process? Weather operations are complex and rely on a series of deliberate, logical and repeatable steps to ensure weather products are accurate and relevant. The process is the heart and soul of the product, and measuring the efficiency of the process offers insight into the value of the product. The success of product tailoring and warfighter application at the tactical level is directly influenced by the accuracy and relevancy of operational level forecast products. These products absolutely must be held to the highest of standards for both content and depiction. Operational end users in command and control centers and tactical level operations must have the highest confidence in the products and have an understanding of the techniques, tactics, and procedures used by the strategic and operational level weather units.

We instill that confidence by ensuring our processes are measured for compliance and that products are a uniform and high quality.

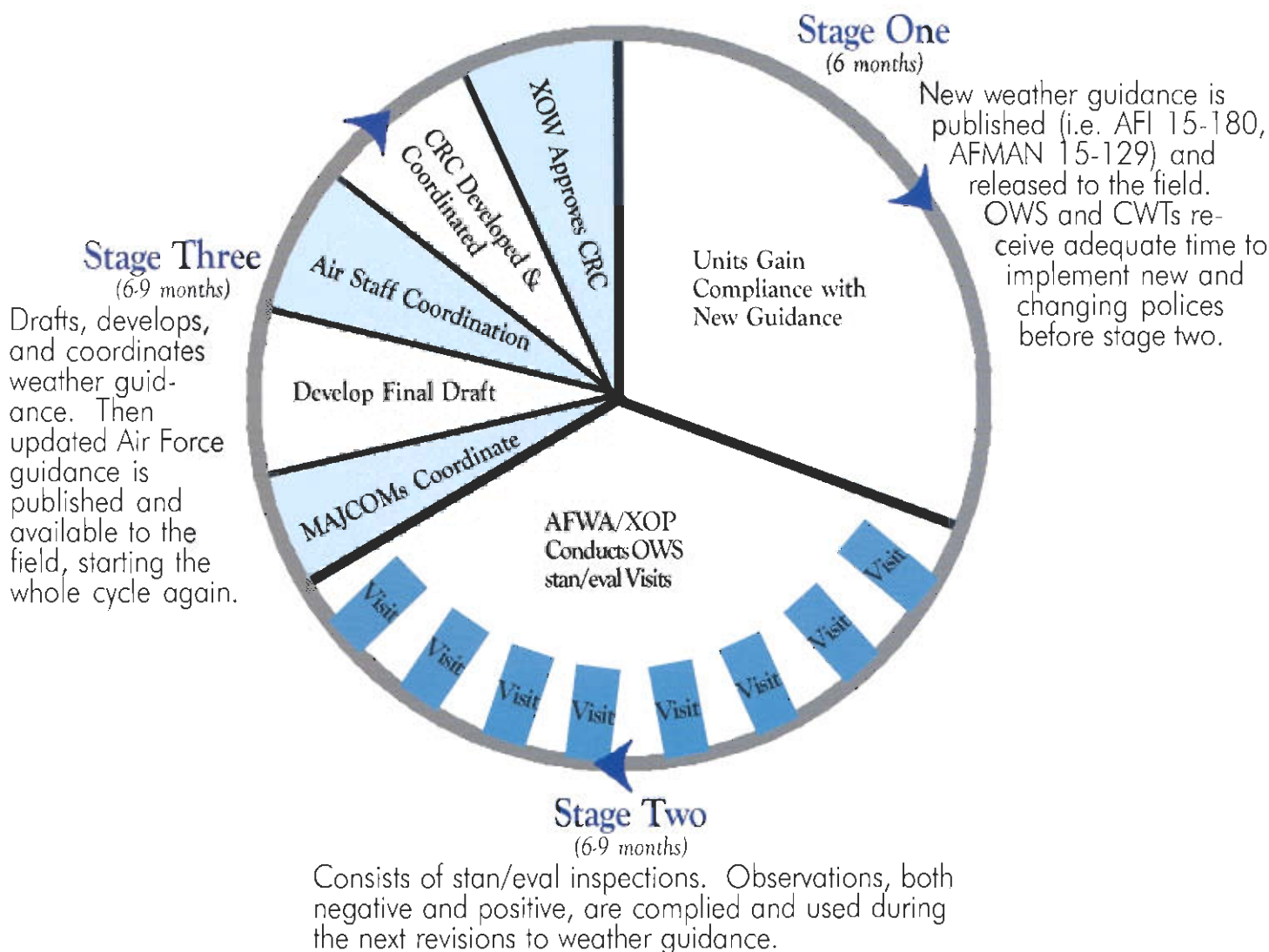
What lies ahead? Each round of stan/eval visits will become more rigorous. The "consultation visits" were not graded; the stan/eval team offered an outsider's perspective to the OWS commanders as they were developing their processes and procedures. These visits identified several areas where the guidance had "missed the mark."

In August of 2003, the first round of graded stan/evals offered an objective assessment of compliance with guidance. Subjective evaluation, the "yes, you have these procedures but they can be better..." element was purposely avoided. Units received "full credit" for processes and procedures that may not be fully mature because of the difference in relative ages of the units. The "oldest" OWS is less than five years old and the

"youngest" declared full operational capability 18 months ago. To keep the playing field level the first graded stan/evals focused on ensuring that critical processes and procedures are in place.

In 2005, the second round of graded stan/evals will introduce a more rigorous evaluation of personnel in the form of computer generated knowledge and skill evaluations and "checkrides" of the operations teams. Lessons learned from consultation visits and the first round of graded evaluations was fed into the new AFMAN 15-129 that will be published this summer. Clearly, there is a lot happening in the stan/eval world and a lot to look forward to in the months ahead. ♣

For more information on the Standards and Evaluation Program, review AFI 15-180



Weather Agency Wins Top NASA Award

by Larry Pitsenbarger
Air Force Weather Agency,
Offutt AFB, Neb.

Members of Air Force Weather Agency were presented NASA's Group Achievement Award, on Feb. 3, 2004, for their contribution to the multi-agency Near Real Time Processing Effort, of NASA's Earth Observing System satellite program. The award is a NASA agency level award and one of the highest honor awards given for group achievement.

The Near Real Time Processing Effort is a direct response to national needs for operational users to have access to NASA Earth Observing System satellite data for both civil and military applications. Now because of the combined efforts of AFWA, NASA, NOAA and the Navy, a system was established to process and deliver, on an operational timeline, data



This image shows hotspots detected by the MODIS sensor and the smoke plumes that were a result of the oil fires burning in the vicinity of Baghdad during Operation Iraqi Freedom in March of 2003. The image, from the MODIS sensor aboard the NASA spacecraft 'Terra', was a result of a team effort between the Air Force Weather Agency and NASA. NASA acquired and processed the raw satellite data, then AFWA's Meteorological Satellite Applications Branch analyzed and annotated the image for transmission to the agency's operational web server.

from EOS Terra and Aqua satellites. This data has allowed operational users the ability to generate never-before-possible night time products using enhanced dust, fire and low cloud night detection techniques.

The AFWA award winning

team consisted of Maj. Brad Green, Capt. Brian Kabat, Capt. Robert Wacker and Larry Pitsenbarger, all formerly of AFWA's Environmental METSAT Requirements Branch; Bruce Thomas and Dr. Tom Kopp of Aerospace; Mark Conner, AER. ✎



World class facilities for a world class organization.

The Air Force Weather Agency recently celebrated the completion of 7,000 square feet of renovated office space. The new office space will house 670 pieces of new office furniture, and 55 people. The four-month renovation was conducted by private contractors, with AFWA facility personnel contributing over 100 work hours to the effort. Recent renovations also included five women's restrooms. Here, Jason Storrs (left) and Nick Bowek finish some final touches in one of the renovated hallways. Photo by Paige Hughes

A Return Home

Weather Flight returns from a deployment to a new 3,500-square-foot facility

by Tech. Sgt. Gregory Ripps
Texas National Guard Public Affairs

A unique National Guard unit celebrated both the completion of a new building on Camp Mabry and the return of seven of its members from overseas Nov. 15.

The 209th Weather Flight is a Texas Air National Guard unit that provides tactical meteorological services to both ground and air forces. Forecasters prepare mission briefings for areas throughout the theater of operations. Information they provide plays a critical role in determining whether medical evacuations, air assault and close air support missions go or not.

Seven members performed their mission in Afghanistan, where they deployed last spring as part of Operation Enduring Freedom.

Although the new building was completed last summer, the flight postponed the official dedication until all its members could be present. They were joined at the building by their families, former commanders and high-ranking members of the Texas National Guard.

Retired Col. Atlee Fritz, immediate past commander of the 209th Weather Flight, noted the many years the unit had functioned without its own building, thanking individuals who made the new one possible. He had donned his uniform for the occasion. "I'm retired, but I'm still proud to wear the uniform," he said.

The current commander, Lt. Col. Tina Smith, recognized the guests and then asked each of the deployed members to share a few words at the gathering.

Senior Airman Joshua Stowers was particularly happy to see his wife again. "I left right after we got married," he explained.

Other members had left small children behind. Tech. Sgt. Alberto Ramirez, father of two and a television weatherman in civilian life, recalled missile attacks where he was stationed near Kandahar. "There were some close calls, some exciting times," he noted in understatement. Tech. Sgt. David Loyd, another father of two, had been stationed in three different places while in Afghanistan. But he contended, "My wife had the hard job."

Tech. Sgt. Billy Tilar had a slightly different situation as he and his wife are in the process of adopting two children from Russia. "These were trying times," he said. "But I was with a

group of people who are very dedicated and who were wonderful to work with."

Master Sgt. Everett Valdez shared that sentiment. "We weren't on the front lines," he explained. "But the job we did briefing pilots was an important part of the war effort."

Tech. Sgt. Cindy Matzen said the experience overseas turned out to be positive. "We were proud to represent Texas," she said. "We're ready to do it again ... in a year or two."

Maj. Donald Prince, the ranking member of the contingent, noted that the members had served on bases at Kandahar, Bagram and other locations. "The 209th Weather Flight people shined wherever they were in Afghanistan."

"We'll call them the 'Magnificent Seven,'" added Maj. Gen. Jerry Ragsdale, Texas Air National Guard commander, who expressed his appreciation to the members, their families and their employers, and for the efforts that went into the weather flight's new building.

The 3,500-square-foot facility is a standard prefabricated metal construction. What makes it special is that it was designed specifically for a weather flight's needs and thereby might be the only such building in the National Guard. It meets electrical and communication requirements and provides ample space.

Colonel Smith pointed out three features: the operational weather station, the main training room, and the room outside. "The operational weather station allows us to use Air Force issue tactical meteorological equipment as well as the Internet," Colonel Smith said. "The building is also host to the Automated Surface Observation System used in local weather forecasts. This allows Camp Mabry to continue the 100-plus-year history of climatology in Austin."

The building has space not only in it but also around it to allow flight members to set up portable stations to accomplish outdoor weather training. Now they don't have to transport equipment and set it up elsewhere as in the past. And having their own building also means weather flight members can secure their equipment more easily.

"Everything we need is in one place," emphasized Master Sgt. David Cornelius, the flight's ranking noncommissioned officer. "The new facility has revolutionized the way the flight conducts training. We are only beginning to tap the capabilities available to us."

The 149th Civil Engineer Flight, based at Lackland Air Force Base, San Antonio, completed the project in six months at a cost of \$920,000. "Completion was three months ahead of schedule and on budget," said the CE flight commander, Lt. Col. Mark Garcia.

"We had a receptive civil engineer and a receptive headquarters to make it happen," said Sergeant Cornelius.

Major Prince summed it all up: "We have the best weather flight building anywhere - and the best weather flight." ❧

JAAWIN – It's Worth A Closer Look

Interactive Surface Analyses

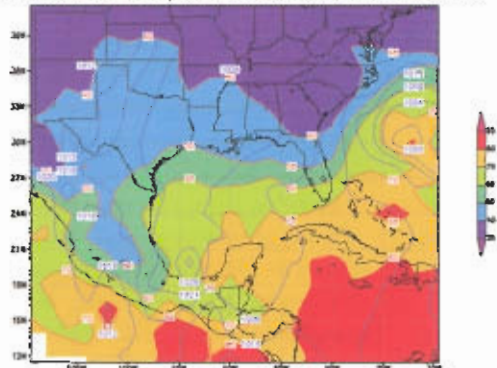
by Ken Smith
Air Force Weather Agency
Offutt AFB, Neb.

Have you ever wanted a surface plot over the Southeast United States? Or a temperature plot over Southwest Asia? You can create a variety of products using JAAWIN's interactive "Surface Observation" application. You can access this from any theater's Surface Analyses menu.

A world map appears with a red box over the central United States. To move the box, simply click a location on the map. To resize the box, click the "Product Size (deg)" input box. The default size is 20 degrees of lat/lon. You can shrink it to 5 degrees, or expand it to 50 degrees. Next, select a background (contour versus color shading) and layers (temperature, sea level pressure, dewpoint, streamlines, vorticity, isotachs, ceiling, visibility, or moisture convergence), then create the product.

If you have any questions or comments about JAAWIN's interactive Surface Observation application, please contact AFWA's Current Requirements Branch at xorc@afwa.af.mil. Watch for continued JAAWIN updates in future Observer issues. ♣

AFWA SURFACE TEMP/SLP ANALYSIS VALID:15Z27FEB2004



2004-02-27 15:00

2004-02-27 15:00

This example of Interactive Surface Analyses has color shading for temperature and contours for sea level pressure. A variety of products can be created using JAAWIN's interactive "Surface Observation" application.

Weather: On Display



(above) Air Force Weather demonstrated military weather operations Jan. 12 - 15, 2004 at the American Meteorology Society's annual meeting in Seattle, Wash. More than 4,000 visitors stopped to check out the IMETS and Space Weather capabilities. AFW representatives were Capt. Herb Keyser, 2nd Lt. Jill Williams, Tech. Sgt.'s William Barnwell and Roland Gonzalez, Staff Sgt. Gery Thompson and Airman First Class David Gilles. Photo by Paige Hughes

(left) Tech. Sgt. Roland Gonzalez outfits a visitor in combat protection while demonstrating Night Vision Goggle capabilities. The exhibit hall opened a day early for the general public. Photo by Paige Hughes

Vital Mission, a Tropical Paradise

Lt. Col. William Spendley, Jr.
and 2nd Lt. Nicole Wells
17th Operational Weather
Squadron, Hickam AFB, Hawaii

The 17th Operational Weather Squadron is located in a tropical paradise on Hickam AFB, Hawaii in the headquarters building for Pacific Air Forces. The 17th OWS is the newest hub in Air Force Weather. The mission is diverse and encompasses a unique blend of operational level support requirements, embedded combat weather flight functionality, and a robust training program for new lieutenants and 3-level airman straight out of the Joint Skills Course at Keesler AFB, Miss.

"It takes an incredible pool of talented people to address weather support requirements for a 100 million square mile Area of Responsibility stretching from the Antarctic to the Arctic with nearly two billion people in 41 countries," said Major Robert Swanson, 17th OWS Director of Operations.

The 17th personnel act as the combat weather team for the 15th Air Wing and Hawaii Air National Guard and US Army Regional Flight Center at Hickam AFB, Hawaii. That mission includes complete environmental and situational awareness for local exercises, numerous weather briefs to wing leadership and Hawaiian Air Defense Zone mission execution forecasts in support of Operation Noble Eagle enabling defense of the Homeland.

The 17th OWS provides Investigative and Recovery Decision Briefs, operational

climatology for planning and aviation specific mission execution forecasts worldwide. Joint POW and MIA Accounting Command's main goal is the recovery and repatriation of 88,000 Americans missing from World War II, the Korean War, the Vietnam War, the Cold War and the Persian Gulf War. The seamless integration of weather information into planning and executing these missions enabled the repatriation of over 100 missing Americans in 2003.

"It's incredible to be participating in something so vitally important as the recovery and repatriation of 88,000 missing Americans from our nation's wars," said 1st Lt. Whitney Heyward, who leads the JPAC support.

Air Mobility Operations Control Center's mission is to command and control air mobility assets in the Pacific Command Area of Responsibility. These operations include air refueling, airlift and aero-medical evacuation missions in support of combat operations, contingencies, exercises and humanitarian relief operations. The squadron prepared and delivered over 5,000 pilot weather briefings during 2003 alone. This included CORONET fighter deployment for global power projection. The OWS was also a key enabler to the deployment of thousands of troops for Operation Enduring Freedom and Operation Iraqi Freedom and air bridge missions transiting the Pacific into the CENTCOM Area of Responsibility.

The Pacific Operations Support Center commands/controls assets involved in exercises and real world operations across the theatre. The Hub

personnel prepare and integrate weather impact assessments into shaping, planning and executing operations across the spectrum of mission profiles and for all Divisions and Cells within the AOC. The squadron was a critical mission enabler for over 140 real-world Sensitive Reconnaissance Operations in the Pacific theatre during 2003.

The Hub ensures Gen. William Begert, Commander of the Pacific Air Forces, has total weather situational awareness for Air Force activities, exercises, contingencies, operations and other significant events within the Pacific theatre. Squadron personnel brief the PACAF DO daily and the COMPACAF routinely. The 17th OWS guarantees Gen. Begert has 365/24/7 environmental awareness and metwatch capability from mud to sun for the entire Pacific. This includes geologic activity – earthquakes, volcanic eruptions and tsunamis; significant solar activity/events; and typhoons and storm systems; all with a focus on bottom-line impacts to military operations, activities and warfighters.

The 17th OWS is integral to Joint Typhoon Warning Center and their mission to provide typhoon forecasting and warnings for the Pacific on behalf of DoD and DoS. Squadron personnel man Typhoon Duty Officer, Typhoon Duty Assistant, Satellite Operations and Technical Development positions. The synergy between JTWC and the 17th OWS optimizes the accomplishment of providing SA on typhoon impacts to Gen. Begert and PACAF leadership through the POSC.

Typhoons and other tropical storms in the Pacific pose significant forecast challenges that require a very robust training program. The squadron's training program was rated "Outstanding" during its final Re-engineering Consultation Visit in November 2002. The program is an in-depth 15-week indoctrination training followed by a combination of OJT and certification in four main positions on the regional operations floor. The length of this portion is flexible—allowing individuals to master the duties of each position in optimum time. The Training Flight's accomplishments

include a 100 percent squadron first-time pass rate for 5-level CDCs (seven percent higher than AFW) and an average completion time of just eight months (34 percent faster than the AF Standard and 67 percent faster than the AFW Standard). The training program is crucial to ensuring exceptionally qualified personnel are ready to support the mission.

The 17th OWS accomplishes its unique and diverse mission across a wide spectrum of operations with outstanding results and will continue to proudly serve the PACAF Commander and all warriors in the Pacific. ♣

The 17th Operational Weather Squadron provided weather briefings to the crew of Air Force One, during a stop at Hickam AFB, Hawaii, on a five-nation presidential visit. President Franklin D. Roosevelt first called for the creation of the Presidential Pilot Office to provide air transportation to the President and his staff in 1944. The current presidential fleet consists of two specially configured Boeing 747-200B series aircraft. The planes have about 4,000 square feet of interior space, and a wing span of over 195 feet.



The 17th OWS provides the highest caliber meteorological, oceanographic and specialized typhoon warning support for Department of Defense and Department of State operations across the PACOM Area of Responsibility. The squadron provides support across the full spectrum from war fighter to specialized staff services for:

- ♣ PACAF's Air Operations Center (PAOC)
- ♣ Air Mobility Operations Control Center (AMOCC)
- ♣ Pacific Operations Support Center (POSC)
- ♣ Joint POW and MIA Accounting Command (JPAC)
- ♣ Joint Typhoon Warning Center (JTWC)
- ♣ Headquarters Pacific Air Forces (HQ PACAF)
- ♣ Headquarters US Army Pacific (HQ USARPAC)
- ♣ Hawaii Air National Guard (HIANG)
- ♣ 15th Air Wing (15th AW)
- ♣ US Army Regional Flight Center

The squadron also has responsibility to issue TAFs for Andersen AFB, Guam and Wheeler Army Airfield, Hawaii and continuous weather warning/advisory support for these two locations and many more throughout the Hawaiian Islands.



Staff Sgt. LeTonia James prepares a forecast at the Regional Graphics desk. Sergeant James is one of the weather technicians assigned to the 17th Operational Weather Squadron. The 17th OWS is responsible for an area over 106 square miles, with nearly two billion people in 41 countries.

Life on "The Arctic Front"

by 2nd Lt. Paul I. Koecher and
Staff Sgt. Edward J. Jackowski
11th Operational Weather Squadron,
Elmendorf AFB, Alaska

When you think of what being stationed in Alaska might be like, what comes to mind? Igloos? Temperatures near negative infinity? Twenty-four hours of darkness? Well, I'm here to tell you it's all true!

Okay, so I may have exaggerated slightly, but there are many advantages, as well as challenges, to living and working in this great wilderness. Between gawking at the Aurora Borealis on the

way to work and dodging moose on the way home, everyday is an adventure in Alaska and at the 11th Operational Weather Squadron.

Alaska is at the center of the world, not only for placement of strategic military aircraft, but also for those die-hard travelers whose quest is to see the world. When talking about air miles, Elmendorf AFB is only 2,090 miles from Washington, D.C., 3,500 miles from Beijing, 3,800 miles from Moscow, and 3,900 miles from Berlin. So, no matter where your interests lie, Elmendorf AFB, Alaska is at the heart of it all.


As for the squadron, we're a small, tightly knit crew, of 60 active duty members. Our mission, however, is broad in scope and critical to National Defense. We provide complete environmental and situational awareness to the Alaskan Command, Eleventh Air Force, Alaskan NORAD Region, 3rd Wing, 354th Fighter Wing, US Army Forces Alaska, Alaska National Guard, and a myriad of other operations.

If you're looking to gain experience forecasting with all types of terrain effects and weather without boundaries, then an assignment to the 11th OWS is right for you. From the Aleutian Islands, with 100+ mph winds and fog that can last for weeks, to the Interior of the state where temperatures can dip down to 80 below zero F in winter and shoot up to 100 F in summer, to the Southcentral region (our "Banana Belt", which includes Elmendorf AFB), which can receive between 60 and 1,100 inches of snow a year...Alaska is THE place to experience the extremes of all seasons.

Alaska is home to 10 Long-Range Radar Sites, used to ensure our nation's northernmost border is protected from assault. Originally established as Distant Early Warning sites during the Cold War, they are now key pieces in the Homeland Defense puzzle. The radar sites are very remote, often hundreds of miles from the nearest village, and accessible only by air. The 11th OWS provides detailed weather briefings to aircrews flying in and out of these sites (several of the "runways" are actually on



Mount McKinley, North America's highest mountain at 20,320 feet, is an extraordinary sight for members of the 11th Operational Weather Squadron. Mount McKinley is named after the 25th United States president, William McKinley. However, many locals prefer to call the mountain by its original Native American name, Denali, meaning "great one". Photo by Staff Sgt. William Everett.



This photo captures the aurora borealis, the Northern Lights, near Anchorage, Alaska. An aurora occurs when highly charged electrons and protons from solar wind interact with elements in the earth's atmosphere. Solar winds stream away from the sun at speeds of about 1 million miles per hour. As the electrons enter the earth's upper atmosphere, they will encounter atoms of oxygen and nitrogen at altitudes from 20 to 200 miles above the earth's surface. The color of the aurora depends on which atom is struck, and the altitude of the meeting. Here the aurora appears green, because oxygen was struck, up to 150 miles in altitude. Photo by 1st Lt. Kristopher Kripchak.

In July of 2003, 11th OWS produced 36 RCC forecasts. Of those 36 forecasts, the RCC was able to fly 23 missions, saving 20 lives, making five assists, and locating two people. When you're notified the number of lives a product you created helped save, weather forecasting takes on a whole new, very personal meaning.

Alaska is also one of the few places where space weather verification can be as simple as going outside and looking towards the stars. A beautiful, red veil fell over the state during the X28 solar event that took place on Nov. 4, 2003. However, it doesn't take a record-breaking event to produce an aurora here. Forecasters can usually bet if they're driving into work and see the aurora, they'll be briefed at shift change about some kind of operations degradation due to space weather.

We even have an Aurora Recall Roster. This list is full of dedicated Airmen, NCO's, and Officers wanting to be notified about major aurora events, no matter what time of day or night. The aurora can be seen during portions of the day through winter here. The shortest day at Elmendorf AFB has just 5 hours 26 minutes of sunlight. Barrow, Alaska, the northernmost point in the United States, sees its final sunset in late November and will not again see a true sunrise until late January.

Although challenging, life at the 11th OWS and Alaska is filled with experiences that will last a lifetime. Whether it's a moose greeting you at your door in the morning, a fox or coyote meandering down the street, the aurora lighting up the sky on a cold winter's night, or a snow event that goes on for days, an assignment in Alaska is one to give you memories you'll carry with you forever. ♡

the sides of mountains!), as well as weather warnings for resource protection.

One example is Cape Newenham, which lies on Alaska's Bering Sea coast. In 1999, there was a fog event that kept the Cape below aircraft landing minimums for over 70 days. The usual re-supply of these forward locations is every 21 days, so you can imagine how desperate the residents were for any weather window. Accurate forecasting and METWATCH makes the difference between fresh food and supplies, or dinner from a can for these people.

The OWS produces forecasts for one of the only alternate landing sites for flights crossing the northern Pacific Ocean, Eareckson Air Station, or as many of us call it, Shemya Island. Shemya (which is only 4 miles long and 2 miles wide) is one of the westernmost Aleutian Islands and is 1,450 miles from Anchorage and 2,050 miles from Tokyo. The island experiences some of the worst weather in the world. Have you heard of 40 knot winds with fog? Well, Eareckson Air Station has experienced these atypical meteorological conditions. The fog can reach as much as 4,000 feet thick during long stable periods, which happens almost every summer. With no weather radar for a thousand miles, timing those "weather windows" is extremely challenging!

The Elmendorf team also provides weather products to an organization called the Rescue Coordination Center. This group is well known around the world for their rapid coordination and response to emergencies across the entire state of Alaska and surrounding ocean. When the RCC calls, every phone on the Operations Floor rings and whoever has the quickest reflexes gets the job. The center can call the squadron at any given moment, needing information for several locations to include sky condition, visibility, weather, surface winds, minimum altimeter setting, hazards, temperatures, sunlight data, upper level winds, sea states and information on conditions in specific mountain passes. They need this data within five to 10 minutes.



This moose was seen in South Anchorage. The largest state park in the nation is located in Alaska, Wood Tikhich State Park is 1.6 million acres of wilderness. Alaska is the largest state in the United States with 586,412 square miles, that is .92 square miles per each Alaskan. Photo by Senior Airman David Craig.

The ^{NEAR} PERFECT Score

"He has a starring role in the Air Force Weather world," said Sergeant Garlington.

by Jodie Grigsby,
Public Affairs, Air Force Weather
Agency, Offutt AFB, Neb.



Senior Airman Jonathan D. Liska set a new standard when he graduated from the new 30-week Weather Forecaster Apprentice course at Keesler AFB, Miss. Airman Liska graduated with 99.7 percent average in the course. He missed only one question on the course's 14 tests; each test has 20 questions.

"To push for and achieve that level of excellence speaks volumes to his character and potential to do great things for his unit and the Air Force", said Maj. Christopher Cox, Commander of the Weather Training Flight.

"I put a lot of hard work into it. I set a goal for myself. It is something I accomplished and I am proud of it, but there is more work to be done," Airman Liska said of his record setting score.

Airman Liska is now assigned with the 25th Operational Weather Squadron at Davis-Monthan AFB, Ariz. where he continues his training. Continuing his scholastic excellence Airman Liska earned a perfect score on his first volume review exercise Career Development Course. According to his supervisor, Master Sgt. William Garlington, Airman Liska is a positive example to his peers.

"He nurtures his fellow classmates with knowledge in such a way that they don't even realize he is teaching them," said Sergeant Garlington.

Sergeant Garlington went on to say that Airman Liska is quickly grasping complex meteorological concepts that usually take years to master.

"In doing so, he will save the Air Force billions by protecting mission essential assets through his forecasting ability."

When Airman Liska is done with his training he will play an important role in military operations. When asked how it feels to be such an important link in the decision making process of Air Force and Army commanders, Liska replies with his trade marked humble attitude.

"That's why I am here, I am here to be challenged, I am here to do the job right."

When asked what is harder, getting a perfect score, or forecasting the weather, Airman Liska answered with out a moment's pause, "Forecasting. Definitely. No question."

The Seattle, Wash. native didn't start his career in weather. Airman Liska was in the Air Force for six years as an Arabic linguist and then separated from the Air Force to go back to college. Airman Liska said that he returned to the Air Force out of a sense of patriotism and that he felt the only way to achieve his personal goals was through the Air Force. He knew when he returned, he wanted it to be in weather.

"It (weather) is so dynamic. It is so unpredictable that it constantly challenges you," Airman Liska said.

When asked about the one question he did miss, on the eleventh test of the Weather Forecaster Apprentice course, Airman Liska says it was the easiest question on the test and that everyone else got it right. And next time, will he get the question right?

"I will never miss that question again in my life" Airman Liska said with a laugh. ☺

(Edward Ring, Weather Training Flight, contributed to this story.)

Honor and a Privilege to Serve

by Capt. Edward Amrhein and Melody Higdon,
Air Force Combat Climatology Center, Asheville, N.C.

On Jan. 1, 2000, Congress enacted the National Defense Authorization Act, which formalized a veteran's entitlement to Military Funeral Honors. This new law made it difficult for the Department of Defense to honor our veterans, especially in regions where there are no military bases near by.

This is especially true in the Asheville, N.C. vicinity where the nearest base is some four hours away. The local Buncombe County Veteran's Council asked for help from Air Force Combat Climatology Center, located in Asheville, N.C. Could they augment funeral details for local veterans? A group of Non Commissioned Officers agreed without hesitation and, after augmenting several funerals, they decided to form an official AFCCC Honor Guard.

The military presence is very small in Asheville and few civilians in the area ever interacted with the Air Force. Seeing the Honor Guard team at a funeral was often a person's first and only exposure to military members. Therefore, the team looked for ways to introduce the Air Force blue to the community so they began to participate in events by presenting our Nation's Colors during the opening ceremonies of local semi-professional sporting events such as baseball and hockey games.

Although funeral support is the number one priority, the team also presents the National Colors for occasions such as sporting events, unit retirement ceremonies, community awards banquets, and other civic events in the region.

What motivates team members to volunteer to serve this way? The reasons vary. For some, it is a way to let the community know that we are here.

"Being without a base close by, I like to show the local community a little bit of what the military is all about," Tech. Sgt. Rick Stage said.

For Tech. Sgt. Mike Cassidy it's a way to help recruit the airmen of tomorrow.

"By demonstrating that we're a unit of professional airmen, upholding the Air Force traditions and exemplifying a history of excellence and patriotism," Sergeant Cassidy said.

Tech. Sgt. Brad Riffle, said his reason for participating is to say thank you to the families of military members that the team honors for their loved ones service.

"To let them know that their service did make a difference, that others will carry on that service, and that their sacrifice won't be forgotten," said Sergeant Riffle.

Whatever their reasons are, every team member feels it is an honor and privilege to be able to serve in this unique way. ♪



Country music singer LeAnn Rimes sings the National Anthem at the opening ceremonies of the Daytona 500. The Air Force Combat Climatology Center Color Guard, Asheville, N.C., participated in the events by carrying the Air Force colors. Color guards from the other services were also represented. In a joint color guard, the Army is the senior service, therefore presenting the National Colors. AFCCC formalized the program last year by creating the Special Ceremonies Team. The SCT is composed of two functional flights; one for funeral support and the other for ceremonial support. In 2003, more than 50 percent of the military members assigned to AFCCC volunteered their service to the team and supported 112 funeral details. They also provided color guard support for 36 events, reaching approximately 225,000 people. Photo by Staff Sergeant William B. Price



President George W. Bush started the race. President Bush met the NASCAR drivers before the race. NASCAR races at about two-dozen tracks every year, with no two tracks the same. There are ovals, tri-ovals, quad-ovals and road courses. The road course at Daytona International Speedway is 3.56 miles, this includes the trioval superspeedway and non-banked infield section. Photo by Staff Sergeant William B. Price

Times Change... but the Weather Hasn't:

A historical look at forecasting for Eielson AFB, Alaska

by Capt. Tom Crenshaw
354th OSS/OSW,
Eielson AFB, Alaska

Alaska is everything I thought it would be...stunning mountain vistas tantalize the mind, trackless wilderness makes me realize how insignificant we really are, awesome wildlife abounds. However, there is one challenge I didn't expect, and that is forecasting the (almost) unpredictable weather.

That's right, I said ALMOST. There are days that I feel it takes a good dose of black magic (wing of bat, leg of newt) combined with a pinch of voodoo (white zombie powder, pins and dolls) and a whole lot of luck (rabbit's foot, four-leafed clover) to produce an accurate forecast. Who in their right mind would expect cold air, stratus and snow to move in from the West when the steering flow is Easterly? What weather technician could even think to predict clear skies and 46 F at Eielson, when it's overcast and 22 F only 26 miles North at

Fairbanks? Why should I expect that huge low to the southwest that is heading directly toward us to swing northerly as it hits the cold waters of the Bering Sea? What do you mean we don't get snow because of the "Denali Shadow"? How in the heck can I expect a temperature swing from 20 below zero to 50 F in a matter of hours???? A freezing rain event in February in the Alaskan interior!!!! Puhleez. In the immortal words of ESPN's Lee Corso, "Fuhgeddaboudit!"

Thank goodness that there were people here before

us...meteorologists who didn't have the unerringly accurate (cough, cough) model guidance we do today. They didn't have the luxury of extensive (the word extensive is highly subjective in this context) surface and upper air observation networks that we do. They used "sound meteorological reasoning" and put down their forecast "rules of thumb" on paper. These rules have been passed down by old-timers through the years and evolved (or were incorporated) into what we know today as a TFRN.

Tech. Sgt. Donald Gossel is one of the most experienced

Alaskan forecasters currently in Air Force Weather. He recently found an official history report for the Eielson AFB weather station circa 1956. In the report, the leadership of what was known as the Detachment 5, 7th Weather Group outlines the challenges that the "old timers" faced during their tenure and from the sounds of it, some of their problems weren't much different than the ones we face today.

Oh, they didn't have LAN problems, or delayed model runs, or software compatibility issues and the like, (and they surely didn't have to remem-



This circa 1949 photo shows the Eielson Base Exchange. The Army completed construction of the original base in October 1944. The base consisted of approximately 600 acres with housing for 108 officers and 330 enlisted. It eventually featured a 10-bed dispensary, two parallel runways 6,625 feet long by 150 feet wide and Birchwood Hangar, a long Eielson fixture.



This photo, taken sometime around 1956, shows the Eielson Base Weather Station. The weather station was a camper trailer. Military planners first chose the site where Eielson sits today as an auxiliary field for Ladd Field, now Fort Wainwright, when bad weather prevented aircraft from landing there. Military planners wanted to build somewhere close but south of Ladd Field. The Eielson site was ideal because the terrain around the proposed site was free of approach hazards for the arriving aircraft. Additionally, the government already owned the land.

ber any eight-digit passwords using at least one special character and number!), but a person reading the report could easily imagine it being written several years ago instead of several decades ago. The report revealed the challenges of endless phone calls asking about the weather. It outlines the problems with data sparseness providing forecast challenges. Additionally, observation error rates are covered in an ancient "QA" style program. Combine these concerns with budgeting and personnel issues and you have challenges that sound familiar very familiar in today's Air Force Weather world.

The major difference, however, is the austere environment our predecessors lived and worked in. Unpaved roads, difficult communications, lack of base facilities and the nonexistence of any modern conveniences (such as Home Depot, Wal-Mart, Pizza Hut etc.) made their lives

more rugged than many of us could imagine. You think people living in the interior of Alaska get "cabin fever" today? Imagine what it would be like to be stuck indoors for weeks at a time without Cable TV, home computers, Playstation games, and other diversions! These folks did it...and set the precedence for weather support to flying operations for decades to come.

So the next time things don't seem to be going our way, or we are not happy with our facilities, or even feel the urge to complain about "lack of data" when making a forecast, we should try to remember that if **THEY** were able to be successful meteorologists up here in the frozen wastelands, those of us who have followed in their footsteps can as well. Oh, and maybe the realization that we truly have it easy in comparison can make us appreciate the rugged frontier beauty of Alaska even more. ♣

Help Preserve Air Force Weather Heritage

The Air Force Weather History Office is the only history center dedicated to preserving the heritage of Air Force Weather. The office maintains the Air Force Weather Archives and Heritage Center. The AFW historians are always looking to improve their AFW's heritage, from today's operations to long-closed and almost forgotten weather stations.

When you are clearing that safe, emptying a file drawer or cleaning off a book shelf, please ask yourself if those materials might be of historical value. If in doubt, then please call or e-mail us and let us know what you have. While we do have many unit histories, we don't have all by any means. We also are looking for special studies, news clippings and pictures, films or videos, etc. Each new contribution helps us tell the Air Force Weather story better.

The Air Force History Office can be reached at:
AFWA.HO@afwa.af.mil
CMCL: (402) 232-8682/8683
DSN: 272-8682/8683
FAX: XXX-8684

The Heritage of the Headquarters

by Al Moyers
Air Force Weather Historian
Air Force Weather Agency,
Offutt AFB, Neb.



The first Air Force Weather Agency Headquarters building was located in Asheville, N.C. The Art-Deco style building was built in 1928, and was eight stories tall. The Weather Wing shared the 100,000 square foot building with the Army Airways Communications Service. The cost to lease the building was \$65,000 a year, this included all utilities and janitorial services. Photo courtesy the Air Force Weather History Office

Today's Air Force Weather Agency was first activated and designated the Weather Wing in 1943. In six decades of providing environmental situational awareness to America's airmen and soldiers, the Air Force Weather Agency has moved its headquarters six times as the Air Force has reshaped its force structure.

On April 8, 1943, the Flight Control Command weather office initiated a staff package detailing requirements for activating the Weather Wing in an effort to centralize the operational management of the assigned weather squadrons. By all accounts, this plan had been thoroughly coordinated with the necessary approval authorities well in advance. Therefore, the package made its way quickly through the Air Staff without objection or delay. The chief of the Air Staff's programs branch approved the plan on April 10, and the authorization letter was published on April 13. In accordance with Flight Control Command General Order No. 1, the Weather Wing was activated "in room 5A-338, [of the] the Pentagon," at 0001 hours on April 14, 1943.

Following the Weather Wing's activation at Washington, D.C., the initial challenge for Lt. Col. W. Oscar Senter, the wing's first commanding officer and former chief of the Air Staff Weather Directorate's operations division, was to find a headquarters for his new command.

The Weather Wing and Army Airways Communications System would require relatively large staffs to oversee their respective rapidly growing global weather and communications field units. The Army General Staff prohibited further growth of War Department offices in or near Washington.

General Henry "Hap" Arnold, commanding general of the Army Air Forces, had made it clear to the Air Staff that he wanted to "achieve maximum decentralization to the field." Moreover, within both the Weather Wing and the AACS headquarters, it was envisioned that many young officers would be on the staffs. A War Department directive prohibited the

Then Lt. Col. W. Oscar Senter, the Weather Wing's first commanding officer, leased the first Air Force Weather Agency Headquarters building. The weather officer was the first Air Weather Service commander to get promoted to Major General while in command of the AWS. Gen. Senter credits his career in weather and being the Weather Wing commander as a large part of why he survived WW II when many of his West Point and flight school classmates did not. General Senter, a rated a command pilot and technical observer, retired as a lieutenant general, after 33 years of service. Photo courtesy the Air Force Weather History Office



assignment of officers less than 28 years-old in the Washington, D.C. area.

I went down to Asheville, [N.C.] when we were told to get [the Weather Wing] out of Washington and rented that seven-story city building on the spot and signed up for it as a colonel," said Lt. Gen. Senter in a 2002 interview with the Air Force Weather History Office.

The General went on to say that he took over half of the building and the Army Airways Communications System took over the other half.

It is argued in the official Army Air Forces Weather Service history, that the decision to locate the Weather Wing and AACCS headquarters in Asheville was because the commanding officer of the Flight Control Command wanted his several subordinate organizations in close proximity to his headquarters. It is also debated whether influential North Carolinians put political pressure on the War Department to select the resort town of Asheville, which was suffering from the lack of tourism during the war.

Despite the reason, Asheville, N.C. was chosen as the site, and the lease for Asheville's Municipal Building was signed on April 27. On May 3, 1943, the headquarters of the Weather Wing was officially opened at Asheville, where it remained until after World War II.

General Senter recalled in the 2002 interview how Air Force leaders had somewhat greater latitude to accomplish their assigned missions during World War II.

"In those days you had unlimited authority," said General Senter.

He went on to say that the renting of the building in Asheville was just one example of how they did things on their own authority.

"You don't ask any questions or ask can I do this. You don't go back again and say, 'Is this alright?' [General Arnold had] said, 'Do it.' And, that's the attitude we had," said Senter. ♪

Air Force Weather Agency Headquarter's Stations:

Washington, D.C.
April, 14 1943–May 2, 1943

Asheville, N.C.
May 3, 1943–Jan. 6, 1946

Langley Field, Va.
Jan. 7 1946–June 13, 1946

Gravelly Point, Va.
June 14, 1946–Nov. 30 1948

Andrews AFB, Md.
Dec. 1, 1948–June 22, 1958

Scott AFB, Ill.
June, 23 1958–14 October 1997

Offutt AFB, Neb.
Oct. 15, 1997

Sending Holiday Spirit

by Master Sgt. Miles Brown
Public Affairs, Air Force Weather
Agency, Offutt AFB, Neb.

The holidays arrived a little early for some of our deployed troops thanks to a few dedicated members of the Air Force Weather Agency and the generosity of hundreds of people.

Members of AFWA send care packages to deployed members throughout the year, but at the holidays, a larger effort takes place. Operation Remote Christmas, as it is referred to at the agency, has become a yearly tradition and this year's results were especially successful. The volunteers prepared 108 care packages and mailed them to service members at 30 deployed locations around the world.

"This was by far the most successful care package drive we have ever had," said Susan Gottschall, AFWA's Operation

Remote Christmas coordinator, "thanks to the efforts and generosity of folks in AFWA and around the country."

"While these boxes are sent to weather people around the globe, the delivered goodwill is felt across the deployed or remote locations," says Master Sgt. Imo Lax, AFWA weather specialist and former Operation Remote Christmas recipient.

"The message that we send to our troops is 'you have not been forgotten, we appreciate your sacrifice,'" Sergeant Lax added.

The care packages contained everything from bubblegum to shampoo, with some of the ideas for donated items coming directly from currently deployed service members. Topping their list were toiletries, books and magazines, movies and music, and above all anything from "Home."

"The most popular items requested by our deployed troops this year were coffee and French Vanilla and/or Amaretto creamers. They seem to have an incredible shortage of these items overseas" said Ms. Gottschall. "One of our deployed troops was quoted as saying, 'Coffee and flavored creamers are as valuable as gold over here.'"

The members of AFWA were not alone in this massive collection effort -

they got help from across the nation. Thanks to the East Texas Elves, a non-profit group started by the mother of an AFWA service member, this year's total donations were almost doubled.

Beverly Drew, of Longview, Texas, started collecting donations for this year's drive with a simple letter and a lot of hope.

"I just wanted to help our troops, and especially after my daughter explained their [AFWA] program and said they would like some help," Ms. Drew said.

Ms. Drew started her group with her niece and a letter requesting donations to the program. She faxed, mailed, and hand delivered hundreds of requests across most of East Texas, and the response was tremendous.

"Everyone was willing to help," Ms. Drew said. "We got more donations than we could load in our van and deliver to Offutt, so some had to be mailed."

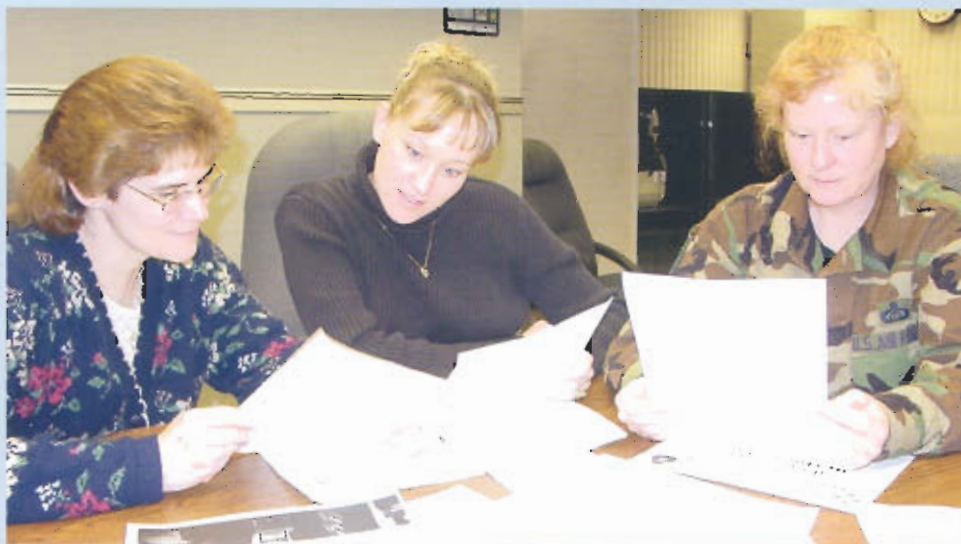
Some of the East Texas businesses also donated more than \$700, which will be used to purchase phone cards for the troops.

But the donations didn't stop in Texas. Thanks to the efforts of Airman 1st Class Keith Morris, an AFWA computer programmer, and Michele Catalano of Long Island, N.Y., Operation Troop Trax, another non-profit group, came through in a big way.

This Internet based donation system was setup by Ms. Catalano to accept donation of cash and new or used music CDs from across the nation for deployed service members. Now run by Airman Morris, the website, www.trooptrax, collected more than \$2,000 to purchase music and batteries for the troops. In total, they supplied more than 1,500 CD for this year's Operation Remote Christmas.

"The power of music is undeniable," Airman Morris said, "and I believe it will have an enormously positive effect on the moral of our troops deployed in less than desirable locations."

Thanks to the efforts of a few dedicated individuals and the generosity of thousands, hundreds of our deployed service men and women had a little early holiday cheer. ♪



From left to right Susie Gottschall, Jessica LeBlanc, and Master Sgt. Imo Lax look over thank you letters from some of the recipients of the holiday care packages the Air Force Weather Agency sent to deployed members. The trio spearheaded the effort that sent 108 boxes to 30 sites around the world. The boxes contained personal items, food, reading material, calling cards, music, and other items deployed airman often need. Additionally, handmade cards and letters from local school children were included in the boxes. Photo by Jodia Grigsby.

Notes of appreciation have poured in from those who got the "Operation Remote Christmas" care packages:

"It is refreshing to see that compassion for fellow Americans abroad is still alive and well."

"I can't thank you enough... I couldn't be any prouder to serve along side of you. Thanks again, and hope to see and hear from you soon..."

"It is great to know that fellow weather personnel remember us and care about each other at the holidays and throughout the year."

"Thank you so much for all the packages you sent. All of the gifts were overwhelming."

"Thanks so much for all the 'goodies.' You can be sure we put it all to good use! It's nice to know we're thought of when we're so far away at Christmas time."

"The ordinance was delivered and hit the mark perfectly. The distribution was incredibly effective and Christmas cheer has exploded all over."

Heather Stewart packs boxes with items for injured military members who are receiving care at the Landstuhl Regional Medical Center in Germany. Ms. Stewart collected items after hearing that injured military members often arrived at the hospital with just the clothes on their back. Photo by Jodie Grigsby.



Making an Impact

by Jodie Grigsby
Public Affairs, Air Force Weather Agency, Offutt AFB, Neb.

Heather Stewart doesn't know who received the boxes she sent, but she knows the items were desperately needed. Ms. Stewart, a space weather technician at the Air Force Weather Agency, Offutt AFB, Neb, collected four boxes of clothing and personal items for wounded troops receiving care at the Landstuhl Regional Medical Center in Germany.

When asked why she organized the effort, Ms. Stewart responded, "If I don't do it, who else will? I guess I did it because I could."

Ms. Stewart and her section coworkers donated toiletries and undergarments to be sent to the military troops. But she was worried that her section alone

wouldn't be able to raise enough donations to make a difference. Ms. Stewart then wrote to several companies seeking donations. One of the companies she sent a letter to was quick to respond to her request for help. The Joe Boxer Company called her and said they wanted to donate items.

With the help of Joe Boxer, Ms. Stewart was able to send over 100 clothing items, and numerous personal items. Although she says she has not heard back from anyone who received the donations, Ms. Stewart said she was just glad to help.

She went on to say that during her 10 years serving active duty in the Air Force, she learned that it is important to take care of each other.

"Those values don't leave you overnight, and I doubt they ever will," Ms. Stewart said. ♡

Weather Team-Teams-up to Help Orphans

by 1st Lt. Matthew Sattler
OL-A, Detachment 1, 607th WS
Camp Stanley, Korea

The Weather Warriors assigned to OL-A, Detachment 1, 607th WS at Camp Stanley, ROK do much more than provide weather products for aviation units from the Army's Second Infantry Division. They are dedicated to improving their local community and giving of their time to serve others. Once a month the airmen get together with other soldiers from the installation and drive into the nearby city of Uijeongbu to the Isaac's House Orphanage. The orphanage supports between 80 and 90 children ranging from 3 to 18 years old.

Each volunteer is paired up with one or two children for the visit. Once there, the volunteers spend four to five hours with the children, taking them to lunch, playing outside, or helping with arts and crafts. The language barrier is hardly noticed once the children begin playing and having a good time.

For special events, such as Thanksgiving and Christmas, volunteers bring the children to Camp Stanley. The

volunteers take the children to the post dining facility to enjoy a special dinner. Afterwards, the volunteers take the children around the post and play sports at the gym or take them bowling at the local bowling alley.

This year, airmen from OL-A helped to organize an Angel Tree drive for Christmas. All the children's names were distributed to volunteers who then purchased a Christmas gift, usually a winter coat, or gloves and a hat, or a game the kids requested. The local Santa Claus helped distribute the gifts. Watching all the events unfold, it was hard to tell who was getting more out of the visit - the children or the volunteers.

In addition to these activities, the installation also participates in a fundraiser each year to raise money to fund the orphanage's winter heating bills. This fundraiser goes a long way in helping the orphanage to operate on a low budget while still allowing for a high standard of living for the children. ♪



1st Lt. Matthew Sattler routinely volunteers at the Isaac's House orphanage. Children at the orphanage range in ages from three to 18 years-old. Photo courtesy OL-A, Detachment 1, 607th WS at Camp Stanley

Holiday Cheer for Orphans in Japan

by Staff Sgt. Jessica Hayes
20th Operational Weather, Yokota Air Base, Japan

Members of the Fighting Fifth Association continued a 35-year tradition when volunteers visited orphans a week before Christmas bearing gifts and singing carols. The Kami no Kuniryō Children's Home, located in the city of Kunitachi, Japan houses 47 children. Most of the children have been neglected, abused, or abandoned. More than half of the 30 volunteers came from the 20th Operational Weather, Yokota Air Base, Japan.

The highlight of the evening at the orphanage was when Santa came into the room bearing gifts for every child in the home. The children were shy and polite but were clearly happy to see that Santa had made it around the globe to visit them.

"I was reluctant to take the job at first, but after entering the room as Santa and I saw how those kid's faces lit up, I'm glad I did. To be honest about it, I probably enjoyed playing Santa more than the kids did having Santa there," said Santa's stand-in Tech. Sgt. David Doler, a weather technician at the 20th.

The gifts that the children received ranged from a Gameboy Advance to baseball gear and remote control cars.

In addition to the individual gifts and attention, a brand-new industrial washer was delivered to the home the morning of the visit.

"I'm very proud of 20th OWS members and their families-- from supporting the Kunitachi Orphanage to Special Olympics and the Shinjuku Homeless Ministry, our squadron contributes to the local community all year long." Lt. Col. Kim Waldron, the 20th's Commander, said. ♪

At a glance:

607th Weather Squadron,

Yongsan Garrison, Republic of Korea

Mission: Most forward deployed permanent combat weather squadron, providing mission-tailored and operationally integrated weather intelligence to United Nations Command, Combined Forces Command, United States Forces Korea and Eighth US Army.

The Numbers: The 607th WS, has 73 weather personnel at eight different locations.

Camp Eagle, OL-A, Det 2: Provides weather intelligence for combat operations of the 1-6 CAV Squadron, a battalion under the 6th Cavalry Brigade, supporting 24 Apache attack helicopters.

Camp Humphreys, Det. 2 HQ: Provides weather intelligence to 6th Cavalry Brigade (Air Combat), injecting weather impacts for helicopter operations against enemy penetrations and infiltration operations. The team also ensures the 2-52 Aviation Regiment, 3rd Military Intelligence Battalion, and the 377th Medical Company have complete environmental situational awareness.

Camp Page, Det. 1 OL-B: The weather products this unit provides sustains the combat readiness of the 1-2 Aviation Battalion, 24 AH-64 Apache and Apache Longbow helicopters. The unit also aids the decision makers at the 542nd Medical Company, and 13 UH-60 Black Hawk helicopters.

Camp Red Cloud, Det. 1 HQ: Provides decision-making capabilities with weather products to the 2ID Headquarters and is responsible for training and equipping three Camp Red Cloud Operating Locations.



Brig. Gen. Thomas Stickford visited the 607th Weather Squadron, headquartered in Yongsan, Korea, January 2003. Yongsan is about 15 miles from the demilitarized zone. Snow is kicked up as General Stickford and staff depart by Black Hawk helicopter.

Camp Stanley, Det. 1 OL-A: Works directly with the 2nd Aviation Brigade and 2-2 Aviation Battalion, and 30 HH-60 Black Hawk helicopters. The team also provides environmental situational awareness to the 542nd Medical Company, and two UH-60 Black Hawk helicopters, at Camp Casey. Additionally providing weather awareness to the 102nd Military Intelligence Battalion, and three RQ-7 Shadow UAVs, at Camp Mobile.

Camp Stanton, Det. 1 OL-C: This team provides complete suite of situational awareness products to the 4-7 Cavalry Squadron, and 16 OH-58 Kiowa helicopters.

Seoul AB, OL-A, 607th WS: Provides mission-tailored weather information to the 17th Aviation Brigade, which includes UH-60 and CH-47 helicopter airlift operations.

Yongsan Garrison, 607th WS: Provides theater oversight and weather planning functions as the combined METOC and Joint METOC officer for Combined Forces Command and US Forces Korea. During war, the squadron would split into two combat weather teams, giving complete situational and environmental awareness for all combined/joint operations, and 8th US Army for all Army Forces operations. ♣



Brig. Gen. Thomas Stickford takes time to get a weather reading using a Kestrel 4000, during his visit to Camp Red Cloud, South Korea. The 170-acre Post has a population of about 1,600 people.

South Korea

Population: about 48 million people.

Industry: electronics, automobile production, chemicals, shipbuilding, steel, textiles, clothing, footwear, food processing

Area: land: 98,190 sq km water: 290 sq km

Elevation: lowest point: Sea of Japan 0 m highest point: Halla-san 1,950 m

Climate: (for Yongsan, South Korea)

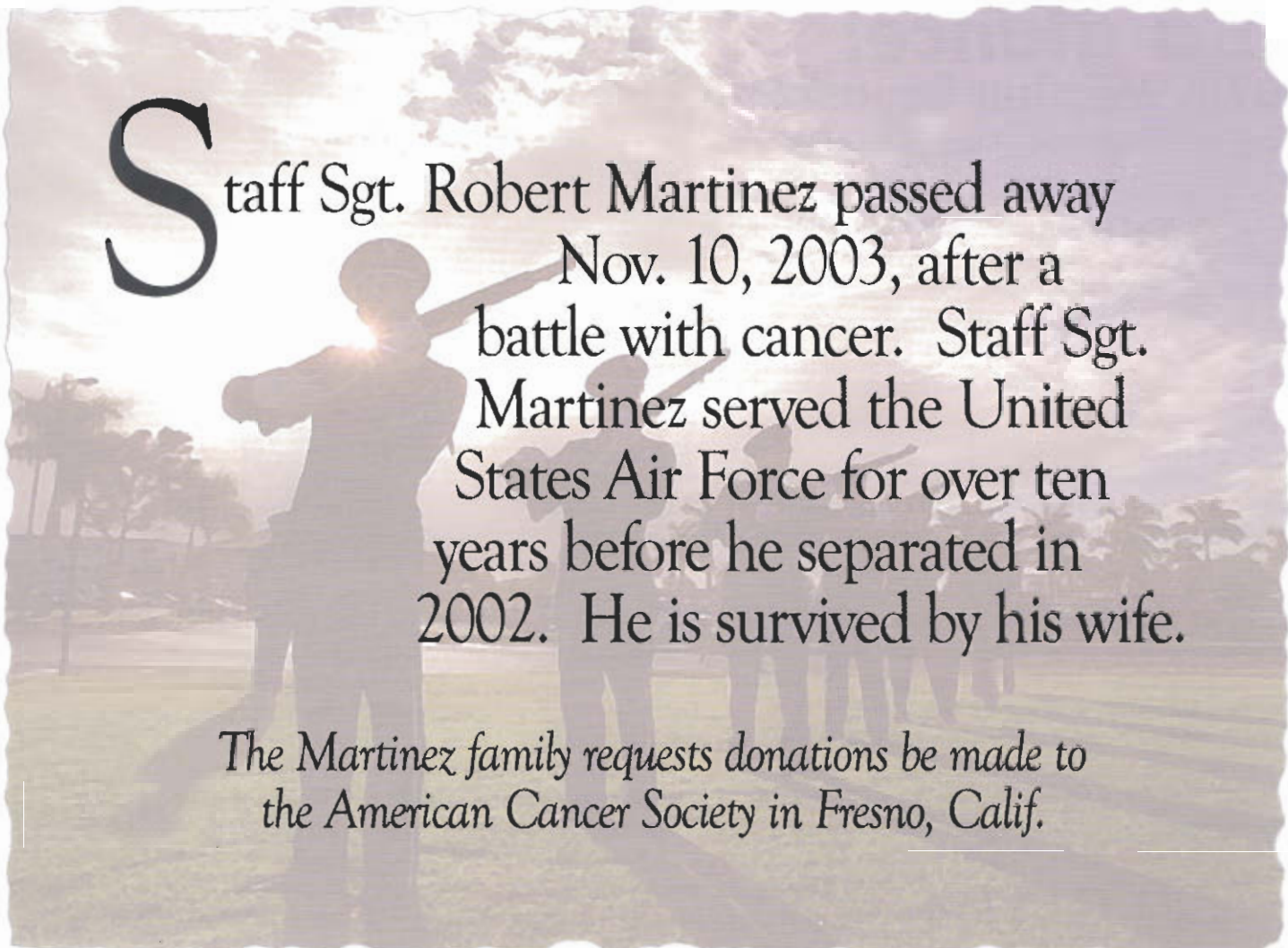
Average daily temperature-

High: 32 F (January), 78 F (June)

Low: 20 F (January), 66 F (June)

Average snow accumulation (January): 3.5 inches

Average rain accumulation (June): 4.6 inches



Staff Sgt. Robert Martinez passed away Nov. 10, 2003, after a battle with cancer. Staff Sgt. Martinez served the United States Air Force for over ten years before he separated in 2002. He is survived by his wife.

The Martinez family requests donations be made to the American Cancer Society in Fresno, Calif.

Correction:



In the Nov./Dec. *Observer*, the article "Joint Typhoon Warning Center "Tropical Ohana"" ran with the incorrect author.

Capt. Robert N. Leejoice, Flight Commander, Satellite Operations, 17th Operational Weather Squadron authored the article.

In the Jan./Feb. *Observer*, the Commander of the 607th WS, Yongsan AIN, Korea, was listed incorrectly.

Lt. Col. Mark Miller is the Commander of the 607th WS, Yongsan AIN, Korea.



The *Observer* staff apologizes for the errors and any inconvenience.



Phone Number Change

Pacific Air Forces/DOW
DSN: 315-448-1475
CMCL: (808) 448-1475

Teaching Lightning Safety, Saving Lives

by William P. Roeder
Chief Staff Meteorologist,
45th Weather Squadron,
Patrick AFB, Fla.

Lightning is the second leading cause of storm deaths in the United States. Lightning inflicts life-long debilitating injuries on many more than it kills. The military is at risk, from increased outdoor exposure during training, deployments, physical fitness training, and recreation. Do you know how to teach lightning safety?

Five Levels of Lightning Safety

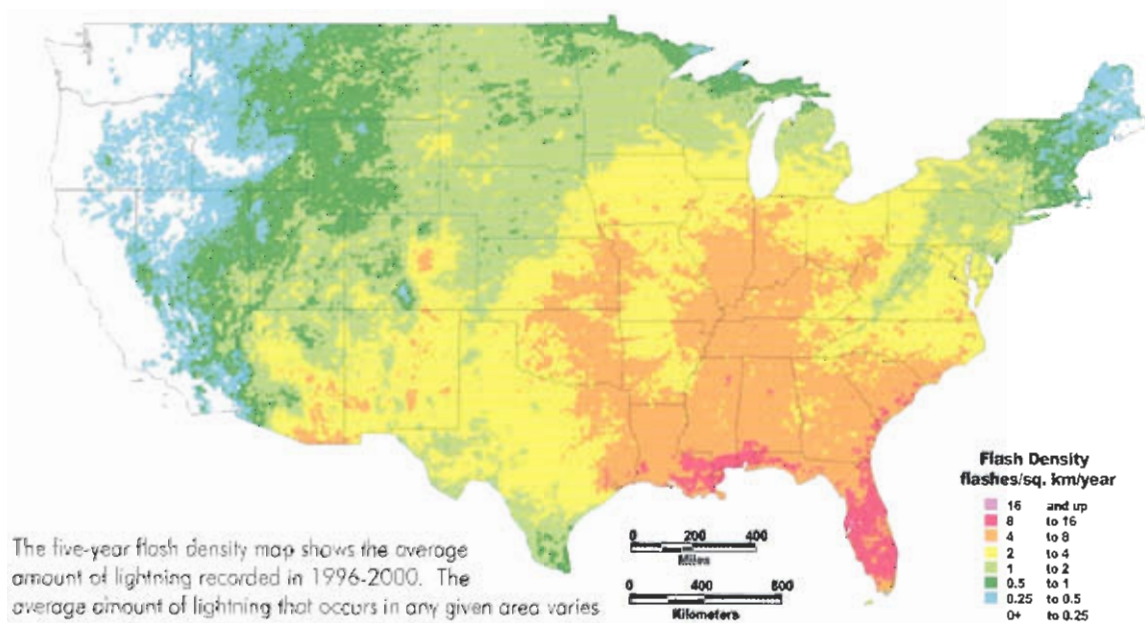
Level 1: Schedule outdoor activities to avoid lightning

Level 2: '30-30 Rule' If 30 seconds between lightning and thunder, go inside. While inside, stay away from corded telephones, electrical appliances and wiring, and plumbing. Stay inside until 30 minutes after you hear the last thunder.

Level 3: Avoid dangerous locations/activities (elevated places, open areas, tall isolated objects, water activities). Do NOT go under trees to keep dry in thunderstorms!

Level 4: Crouch if shelter is not available.

Level 5: First Aid: Call 9-1-1. CPR or rescue breathing, as appropriate.



The five-year flash density map shows the average amount of lightning recorded in 1996-2000. The average amount of lightning that occurs in any given area varies significantly from year to year. This map is for general purposes only and is not indicative of current lightning or future lightning activity. Lightning density map courtesy of Vaisala, lightning data provided by the U.S. National Lightning Detection Network.

The first step in teaching lightning safety is motivation through increased awareness of the threat. Lightning is a leading weather killer and injurer. However, the vast majority of lightning casualties can be easily, quickly, and cheaply avoided through a few simple guidelines. Review the 5-level lightning safety plan, an article on this plan can be found in the Jul/Aug 03 *Observer*.

The second step in a lightning safety program is deciding when and where to conduct the program. The largest lightning threat in the U.S. is in the Southeast, Gulf States, Mississippi and Ohio River Valleys, and the Front Range of the Rocky Mountains. But no place in the U.S. is free of lightning threat. The best times to begin a program are just before the start of your local lightning season, just before major lightning outbreaks, during national Lightning Safety Awareness Week, which is always the last

full week of June, and during state or regional severe weather awareness weeks. If these latter events don't include lightning, coordinate with the organizers to get it added. You can even declare your own local lightning week. Frequent reminders throughout the lightning season are also required, especially just before major local outdoor events. Even areas with relatively little lightning activity, such as the West Coast, need refresher training when lightning is forecast or occurring.

The third step is choosing how to communicate the lightning safety message. Use your base newspaper, Commander's Channel base television, global email, and briefings. Every format should remind people that you can provide training and give POC information. Lightning safety posters and brochures are useful as briefing handouts. Don't forget to add lightning safety to your unit website.

The fourth step takes the most work—choosing the content for your lightning safety program. In general, the more you include local interest, the better the training. One of most effective techniques is interviewing lightning survivors. The Lightning Strike Electric Shock Survivors International is the largest support group for lightning survivors and can help you find a lightning survivor in your area that is willing to help. Another effective technique is myth-busting. This technique can be very entertaining, and thus tends to be remembered longer. A third useful approach is to emphasize the locations and activities associated with lightning casualties. You may need to adapt these to your local situation. For example, bases near the Front Range of the Rocky Mountains need to emphasize the danger of hiking and climbing in the mountains, especially after late morning. States with high lightning casualty rates can also use that fact as motivation. Other useful techniques include coverage of recent local lightning casualties or major damage. Catchy phrases also help people maintain awareness and remember the training.

Finally, we urge all meteorologists to proactively engage in lightning safety education for the general public. Lightning safety education is perhaps the best way to reduce weather casualties. Though be sure to coordinate with your local National Weather Service office, since public weather education is their mission. Outreach to your local schools

Highest Lightning Injuries (per capita)

1. Wyoming
2. New Mexico
3. Florida
4. Arkansas
5. Colorado
6. Maine
7. Mississippi
8. Oklahoma
9. South Dakota
10. North Carolina

Highest Lightning Deaths (per capita)

1. New Mexico
2. Wyoming
3. Arkansas
4. Florida
5. Mississippi
6. Colorado
7. Oklahoma
8. North Carolina
9. Louisiana
10. South Dakota

is vital. Ingraining lightning safety into our children could significantly reduce lightning casualties within a generation.

Needless to say, you should also ensure your base has an effective lightning warning program, from the technical meteorological procedures for issuing lightning advisories, through communicating the advisory to people outside. Your lightning safety education program can ensure people react correctly to the advisories, through increased awareness of the threat.

Meteorologists can play a decisive and profound role in the battle against lightning casualties. We hope this article encourages more meteorologists to join this vital customer and public service to save lives and avoid crippling injuries. Please feel free to contact 45th Weather Squadron for advice on starting your lightning safety program. ☘

Websites to learn more about Lightning Safety:

National Weather Service
www.lightningsafety.noaa.gov

45th Weather Squadron
<https://www.patrick.af.mil/45ws/45og/lightningsafety>

National Severe Storms Laboratory
www.nssl.noaa.gov/research/items/lightning.html

National Lightning Safety Institute
www.lightningsafety.com

American Red Cross—Masters of Disaster
www.redcross.org/disaster/masters

Lightning Strike and Electric Shock Survivors, Intl.
www.lightning-strike.org

The appearance of website links does not constitute endorsement by the U.S. Air Force or the information, products or services contained therein. For other than authorized activities such as military exchanges and Morale, Welfare and Recreation sites, the U.S. Air Force does not exercise any editorial control over the information you may find at these locations.

Making the Grade

by Jodie Grigsby
Public Affairs, Air Force Weather Agency,
Offutt AFB, Neb.

Kenny Redler is not your average college student. He goes to school full time, majoring in computer engineering. He maintains an impressive grade point average while taking 14 credit hours while working 20 hours a week. The 22-year-old also volunteers with his church. And to top that all off, he is busy with plans for a May wedding.

Mr. Redler is a student at the Peter Kiewit Institute. The Peter Kiewit Institute is home to the University of

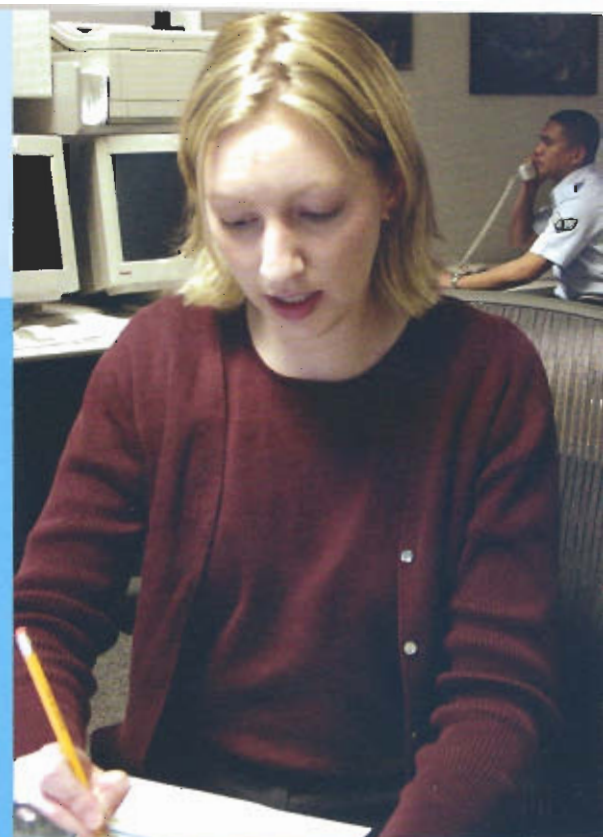
Nebraska-Lincoln's College of Engineering and Technology and the University of Nebraska at Omaha's College of Information Science and Technology.

When Mr. Redler was looking for a part-time job he hoped to find one that would expose him to things he wasn't learning in the classroom. He wanted to put everything he had just learned to the test. And he says he found that.

"It is on-the-job experience with real issues. I'm working with the limitations of real world applications. I'm not working in the theoretical idealism or the classroom, but in real hard facts," Mr.



Kenny Redler a student at the Peter Kiewit Institute, majoring in computer engineering, works part-time at the Air Force Weather Agency. The Institute's goal is provide a classroom environment that allows collaboration between faculty, students and businesses. Photo by Jodie Grigsby.



Jenifer Piatt has worked at the Air Force Weather Agency for four and a half years. This May she will earn her Masters in Management Information Systems, from the Peter Kiewit Institute. Ms. Piatt earned her bachelors from the University of Nebraska-Lincoln, in meteorology. She says that what she is studying now, will help her do her job in AFWA's Meteorological Satellite Applications Branch better.

"Meteorology is really just about raw data, and you have to learn how to use it," Ms. Piatt said.

She said she choose the PKI in part because of the location, reasonable tuition, and technologically advanced facilities.

"And I know it has a great reputation," she added.

Ms. Piatt said that working full-time and going to school to earn her advanced degree has been a challenge, but that the people at AFWA have been really supportive.

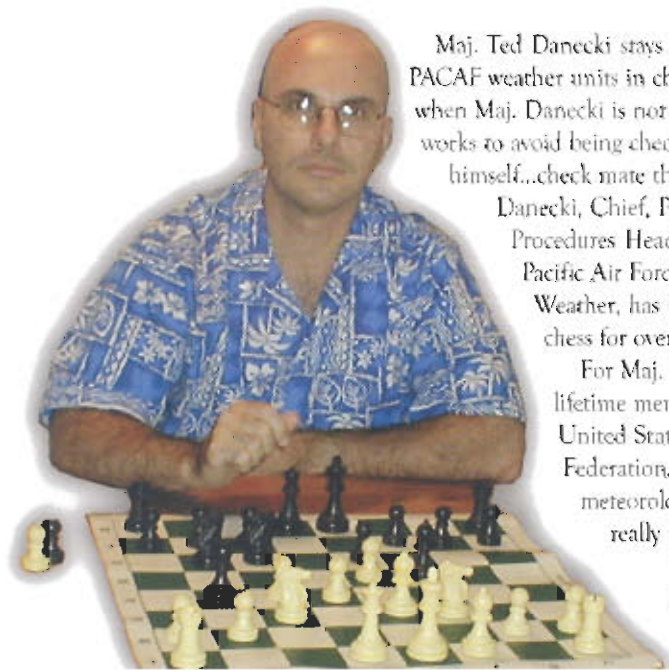
"I think they know that what I am learning is not only benefiting me, but the organization," she said. ☛

Redler said.

He was hand selected by his employer, the Air Force Weather Agency. His first task for the Agency was to assist in redesigning the internal websites. While he had no formal training to do, it was something he was interested in. He drew upon the expertise of the AFWA

Major Chess Player

by Jodie Grigsby
Public Affairs, Air Force Weather Agency,
Offutt AFB, Neb.



Maj. Ted Danecki stays busy keeping PACAF weather units in check. And when Maj. Danecki is not on duty he works to avoid being checked himself...check mate that is. Maj. Danecki, Chief, Policies and Procedures Headquarters Pacific Air Force Director of Weather, has been playing chess for over 30 years

For Maj. Danecki, a lifetime member of the United States Chess Federation, chess and meteorology aren't really that different.

"In both chess and meteorol-

ogy you have to visualize, visualize positions on the chess board and visual the atmosphere in meteorology," Maj. Danecki said.

The major credits his success as a chess player, and a meteorologist to great training, and then the ability to rely on your intuition. And Maj. Danecki should know what it takes to be a winning chess player. In 2002 and 2003 he participated in the Air Force Chess Championship held at Kelly AFB, Texas. He made the Air Force Team both years, and both years the team went on to win the Inter-service Championships.

In 1994, he finished 10th, among thousands of participants in the 1994 United States Open Postal Championship. He holds the 'Master' title for postal play, games conducted via postal mail. Maj. Danecki once beat the then reigning United States champion Grand Master, Larry Christiansen, in an exhibition match. He was the only person of 20 to do so.

When asked about what he likes best about playing chess Maj. Danecki said, "The one on one battle."

And when asked what he likes best about being a meteorologist, the avid chess player said, "The challenge of weather, it is always changing. It is almost like a one on one battle with Mother Nature." ♣

Web Team, incorporating their ideas and expertise into the design.

"If we had a 100 people like him, we could change the world," said Col. Dave Handle, Director of AFWA's Communications and Information Directorate.

When Mr. Redler was hired, part of the appeal of his new job was that he would be able to learn about different applications for the things he was learning in the classroom. And perhaps even bring a few new ideas to the table.

And that is the exact intent of the partnership between the Air Force Weather Agency and the Peter Kiewit Institute. The Institute's mission is to fuel collaborations and fire the imagination of faculty, students and business alike. Students are encouraged to get jobs in the community applying what they learn in the

classroom.

By all accounts, AFWA was a perfect place to do that. The Agency's Information Technology professionals manage approximately 1,500 gigaflops of processing capability. AFWA's 277 million dollar data processing complex has over 40 terabytes of mass storage, that's approximately 40 trillion bytes.

Mr. Redler, scheduled to graduate in May, said he has learned a lot from the men and women of AFWA. When asked what he gained by working with the military versus a civilian company, the Albion, Neb., native said he learned a lot from the people. He said he appreciates the different experiences they have to draw from, and that he can learn from. He added that the people he works with have pride in the job they do, and he feels everyone is working towards a common goal.

Would he recommend working for

AFWA to one of his classmates? "Absolutely," Mr. Redler said without pause.

The people that he works with are equally as pleased with the teaming. After successfully redesigning the website, AFWA leadership decided to utilize his expertise in the Software Engineering Branch.

Col. Charles Benson, the AFWA Commander, predicts the future of the relationship between PKI and AFWA will continue to grow. Recently AFWA has approved the hiring of another PKI student.

"This is a win-win situation. The PKI students get an opportunity to learn from the professionals at AFWA, and we benefit from their enthusiasm," Col. Benson said on the partnership.

"The more PKI students we get, the better off we'll be," Col. Benson added. ♣

Weather Warrior



Staff Sgt. Jorge L. Evans

20th OWS, Yokota AB, Japan

Regional Weather Forecaster

Years in Service: 6 years and 3 months

Hometown: Miami, Florida

Role Model: Clint Eastwood because he never took any slack from anyone.

Hobbies: Listening to music and working on cars

Reason joined the Air Force: Something I have always wanted to do since childhood

Personal motto: You only get to live life once so make the best out of it... no regrets!

Most memorable Air Force weather experience: This one is a work in progress but the opportunity to serve and perform my duties a step closer to the frontlines in support of OEF and OIF is priceless. This took place the second day after taking over from the previous forecaster. During the daily missions, the radio operator would announce the team's progress as it was relayed to them over the radio with other team members also announcing any significant changes or situations from their sections that could affect the mission's outcome. That night we had a strong potential for thunderstorms, so with a commanding voice I announced to the staff the forecast potential for thunderstorms and 3/4" rain accumulation. Everyone looked at me as if I was crazy... apparently this was the first time the weather section made any announcements in such a manner. About two hours later we had thunderstorms on station and the rain did not stop for the next day and a half. Needless to say after that, whenever the "weather man" spoke, everyone paid real close attention.

Salutes

Retirements

Maj. Steven Ruzg, HQ AFWA, Offutt AFB, Neb.
Maj. Bruce Thompson, DTRA, Alexandria, Va.
Chief Master Sgt. Stanley Googins, HQ AFWA, Offutt AFB, Neb.
Senior Master Sgt. Robert Born, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Mark Adams, OLC-18th WS, Ft. Knox, Ky.
Master Sgt. Todd Allen, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Frank Baumgartner, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Cary Fitzsimmons, AFCWC, AFWA, Hurlburt Field, Fla.
Master Sgt. Scott Johnston, HQ AFWA, Offutt AFB, Neb.
Master Sgt. John Schuncke, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Frank Staszko, AFCWC, AFWA, Hurlburt Field, Fla.
Master Sgt. William Tevebaugh, HQ AFWA, Offutt AFB, Neb.
Tech. Sgt. Daniel McCormick, HQ AFWA, Offutt AFB, Neb.
Tech. Sgt. John Nawrocki, HQ AFWA, Offutt AFB, Neb.
Tech. Sgt. Timothy Siegall, HQ AFWA, Offutt AFB, Neb.

Awards and Decorations

LEGION OF MERIT
Col. Carl Daubach, HQ AMC/DOW, Scott AFB, Ill. (1 OLC)

DEFENSE MERITORIOUS SERVICE MEDAL

Maj. Bruce Thompson, DTRA, Alexandria, Va.

MERITORIOUS SERVICE MEDAL

Lt. Col. John Coulter, 28th OWS, Shaw AFB, S.C. (4 OLC)
Maj. Ronald Senter, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Mark Adams, OLC-18th WS, Fort Knox, Ky.
Master Sgt. Todd Allen, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Patrick Bythrow, HQ AFWA, Offutt AFB, Neb. (2 OLC)
Master Sgt. Cary Fitzsimmons, AFCWC, AFWA, Hurlburt Field, Fla. (1 OLC)
Master Sgt. David Hanev, 25th OWS, Shaw AFB, S.C.
Master Sgt. Harry Lind, 28th OWS/OSW, Ellsworth AFB, S.D. (1 OLC)
Master Sgt. William Martin, 28th OWS/OSW, Ellsworth AFB, S.D.
Master Sgt. Frank Staszko, AFCWC, AFWA, Hurlburt Field, Fla. (2 OLC)
Master Sgt. Louis Straw, HQ AFWA, Offutt AFB, Neb.
Master Sgt. John Thor, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Steven Whitehead, HQ AMC/A3W, Scott AFB, Ill. (1 OLC)

AIR FORCE COMMENDATION MEDAL

1st Lt. Matthew Welch, 28th OWS/OSW, Ellsworth AFB, S.D.

Master Sgt. Douglas Anderson, 28th OWS, Shaw AFB, S.C.
Master Sgt. William Tevebaugh, HQ AFWA, Offutt AFB, Neb. (2 OLC)
Tech. Sgt. Thomas Briggs, 28th OWS, Shaw AFB, S.C.
Tech. Sgt. Melissa Lewis, HQ AFWA, Offutt AFB, Neb. (3 OLC)
Tech. Sgt. Kyle Mathers, HQ AFWA, Offutt AFB, Neb. (2 OLC)
Tech. Sgt. Raymond Nawrocki, HQ AFWA, Offutt AFB, Neb. (3 OLC)
Tech. Sgt. Patrick Shannon, 28th OWS/OSW, Ellsworth AFB, S.D. (2 OLC)
Tech. Sgt. Shaalrick Wynn, HQ AFWA, Offutt AFB, Neb. (1 OLC)
Staff Sgt. Shawn Cabelles, HQ AFWA, Offutt AFB, Neb.
Staff Sgt. Robert Glasgow, HQ AFWA, Offutt AFB, Neb.
Staff Sgt. Thomas Grabrick, HQ AFWA, Offutt AFB, Neb.
Staff Sgt. Jeff Hall, 4th OWS/OSW, Seymour Johnson AFB, N.C.
Staff Sgt. James Kramer, HQ AFWA, Offutt AFB, Neb.

AIR FORCE ACHIEVEMENT MEDAL

Tech. Sgt. Steven Babe, 48th OWS/OSW, Lakenheath, United Kingdom
Tech. Sgt. Michael Compton, 48th OWS/OSW, Lakenheath, United Kingdom
Tech. Sgt. Raymond Griego, 48th OWS/OSW, Lakenheath, United Kingdom
Staff Sgt. Eric Burgher, 25th ASOS, Wheeler AAF, Hawaii
Staff Sgt. Shane Byrd, 28th OWS/OSW, Ellsworth AFB, S.D.
Staff Sgt. Jamie Christopher, 28th OWS, Shaw AFB, S.C.
Staff Sgt. James Melton, 4th OWS/OSW, Seymour Johnson AFB, N.C.
Staff Sgt. LeAnn Smith, HQ AFWA, Offutt AFB, Neb. (1 OLC)
Senior Airman Maria Crosby, 28th OWS/OSW, Ellsworth AFB, S.D.
Senior Airman Chad Gavel, 28th OWS, Shaw AFB, S.C.
Senior Airman Troy Goerck, 28th OWS/OSW, Ellsworth AFB, S.D.
Senior Airman Clarissa Kasp, 4th OWS/OSW, Seymour Johnson AFB, N.C.
Senior Airman Randy Messer, 28th OWS, Shaw AFB, S.C.
Senior Airman Michael Rawley, 25th ASOS, Wheeler AAF, Hawaii
Senior Airman Jaeryne Sison, 4th OWS/OSW, Seymour Johnson AFB, N.C.

Education

WEATHER OFFICER'S COURSE

Maj. Naceem Garnat, Imanuel, Egypt
2nd Lt. Tobi Baker, 35th OWS, Scott AFB, Ill.
2nd Lt. Jonathan Brady, HQ AFWA, Offutt AFB, Neb.
2nd Lt. James Caron, 25th OWS, Davis Monthan AFB, Ariz.
2nd Lt. Kevin Clegg, 17th OWS, Hickam AFB, Hawaii
2nd Lt. Laurae Grossman, 25th OWS, Davis Monthan, Ariz.
2nd Lt. Scott Grzewich, 15th OWS, Scott AFB, Ill. (Distinguished Graduate)

2nd Lt. Jennifer Hemmelgarn, 26th OWS, Barksdale AFB, La.
2nd Lt. James Hughes, USAF OWS, Sembach, Germany
2nd Lt. Sarah Jennings, 28th OWS, Shaw AFB, S.C.
2nd Lt. Jeff Johnson, HQ AFWA, Offutt AFB, Neb.
2nd Lt. Trevor Lavoie, 25th OWS, Davis Monthan AFB, Ariz.
2nd Lt. James Mitchell, 28th OWS, Shaw AFB, S.C.
2nd Lt. Jay Neese, 26th OWS, Barksdale AFB, La.
2nd Lt. Jonathan Schuring, 25th OWS, Davis Monthan AFB, Ariz.
2nd Lt. Brandee Smith, 25th OWS, Davis Monthan AFB, Ariz.
2nd Lt. Adam Streff, 26th OWS, Barksdale AFB, La.
2nd Lt. Perry Sweat, 17th OWS, Hickam AFB, Hawaii
2nd Lt. Randi Warrs, 15th OWS, Scott AFB, Ill.
2nd Lt. Elizabeth Welliver, 20th OWS, Yokota AB, Japan
2nd Lt. Nicole Wells, 17th OWS, Hickam AFB, Hawaii
2nd Lt. Joshua Werner, 26th OWS, Barksdale AFB, La. (Distinguished Graduate)

WEATHER CRAFTSMAN'S COURSE

Tech. Sgt. Ronald Bradford, Jr., 25th OWS, Davis Monthan AFB, Ariz.
Staff Sgt. Eric Allen, USAF OWS, Sembach, Germany
Staff Sgt. Michael Anderson, 27th OWS/OSW, Cannon AFB, N.M.
Staff Sgt. Todd Barnes, 165th WF, Louisville, Ky.
Staff Sgt. Joshua Bauman, 39th OS/OSW, Incirlik AB, Turkey
Staff Sgt. Daniel Biglew, 20th ASOS, Ft. Drum AFB, N.Y.
Staff Sgt. Daniel Borchert, 12th CTS, Ft. Irwin, Ca.
Staff Sgt. Garrett Bridges, 335th TRS/UDOA, Keesler AFB, Miss.
Staff Sgt. Douglas Bunn, Jr., 18th WS, Ft. Bragg, N.C.
Staff Sgt. Jason Campbell, 11th OWS, Elmendorf AFB, Alaska
Staff Sgt. Melissa Capestro, 5th OWS/A-3W, Minot AFB, N.D.
Staff Sgt. Walter Chumney, 720th STG, Hurlburt Field, Fla.
Staff Sgt. Michael Doughtrey, USAF OWS, Sembach, Germany
Staff Sgt. Michael Deal, Det. 5, 10th CWS, Ft. Bragg, N.C.
Staff Sgt. Candie Fuson, 355th OWS/OSW, Davis Monthan AFB, Ariz.
Staff Sgt. Rachelle Greer, 18th OWS/OSW, Kadena AFB, Japan
Staff Sgt. Kristine Haas, 89th OWS/OSW, Andrews AFB, Md.
Staff Sgt. Jeffrey Hall, 4th OWS/OSW, Seymour Johnson, N.C.
Staff Sgt. Mark Hatten, 57th OWS/OSW, Nellis AFB, Nev.
Staff Sgt. Jeremy Hotelling, HQ AFWA, Offutt AFB, Neb.
Staff Sgt. Richard Heruska, 46th WS, Eglin AFB, Fla.
Staff Sgt. Robert Jones, 20th OWS/OSW, Shaw AFB, S.C.

Staff Sgt. Fambro Knight, Det. 1, 18th WS, Ft. Eustis, Va.
Staff Sgt. James Lumpkin, Jr., 97th OWS/OSW, Altus AFB, Okla.
Staff Sgt. Davison Madison, 18th OWS/OSW, Kadena AFB, Japan
Staff Sgt. Tobias Manzanares, 13th ASOS, Ft. Carson, Colo.
Staff Sgt. Wesley Martin, 4th OWS/OSW, Seymour Johnson, N.C.
Staff Sgt. Elizabeth McNulty, 28th OWS, Shaw AFB, S.C.
Staff Sgt. James Melton, 4th OWS/OSW, Seymour Johnson, N.C.
Staff Sgt. Christopher O'Brien, 1st OWS/OSW, Langley AFB, Va.
Staff Sgt. Leslie Orr, 1st OWS/OSW, Langley AFB, Va.
Staff Sgt. Fernando Ortega, HQ AFWA, Offutt AFB, Neb.
Staff Sgt. Rosenberg Ortiz, Det. 5, 10th CWS, Ft. Bragg, N.C.
Staff Sgt. Ralph Parker, 21st ASOS, Ft. Polk, La.
Staff Sgt. Andrea Patterson, 11st ASOS ASW, Ft. Polk, La.
Staff Sgt. Karen Rattray, Det. 6, 7th WS, Wiesbaden, Germany
Staff Sgt. Shansaka Robinson, 355th OWS/OSW, Davis Monthan AFB, Ariz.
Staff Sgt. Sean Shuman, 25th OWS, Davis Monthan AFB, Ariz.
Staff Sgt. Richard Smith, OLA, 25th ASOS, Bradshaw AAF, Hawaii
Staff Sgt. Sandy Stewart, 20th OWS/OSW, Shaw AFB, S.C.
Staff Sgt. James Storr, 19th ASOS, Ft. Campbell, Ky.
Staff Sgt. Jillian Taylor-Furman, 15th ASOS/OSW, Ft. Stewart, Ga.
Staff Sgt. Michael Torres, USAF OWS, Sembach AB, Germany
Staff Sgt. Lee Utsey, 46th WS, Eglin AFB, Fla.
Staff Sgt. Rodney Webber, Jr., 10th CWS, Hurlburt Field, Fla.
Staff Sgt. Ruth Willemis, 200th WF, Richmond, Va.
Staff Sgt. Duane Willson, 28th OWS, Shaw AFB, S.C.
Senior Airman Mary-Jo Albright, 335th TRS/UDOA, Keesler AFB, Miss.

WEATHER FORECASTER APPRENTICE COURSE

MS1T Jeffery Estes, USCG Air Station Kodiak, Alaska
Tech. Sgt. Thomas Postl, 107th CFW, Selfridge ANGB, Mich.
Tech. Sgt. David Spens, 107th CFW, Selfridge ANGB, Mich.
Staff Sgt. Mario Alcalá, 25th OWS, Davis Monthan AFB, Ariz.
Staff Sgt. Charles Frye Jr., 25th OWS, Davis Monthan AFB, Ariz.
Staff Sgt. Mark Gilley, 105th WF, Nashville, Tenn. (ANG)
Staff Sgt. Albert Jackson, 25th OWS, Davis Monthan AFB, Ariz.
Staff Sgt. Brian Sergeant, 104th CFW, Camp Fremont, Md.
Staff Sgt. Jonathan Wickes, 105th WF, Nashville, Tenn. (ANG)
Senior Airman Jeremy Armstrong, 127th WF, Topeka, Kan. (ANG)
Senior Airman Jason Barlow, 26th OWS, Barksdale AFB, La.
Senior Airman Jolene Billbury, 110th CWF, Bridgetown, Mo.
Senior Airman Timothy Brace, 28th OWS, Shaw AFB, S.C.
Senior Airman Michael Daniels, 25th OWS, Davis Monthan AFB, Ariz.
Senior Airman Joe-Ben Dorbandt, 15th OWS, Scott AFB, Ill.
Senior Airman Dawn Garner, 105th WF, Nashville, Tenn. (ANG)
Senior Airman Jonathan Liska, 25th OWS, Davis Monthan AFB, Ariz.
Senior Airman Gary Long, 28th OWS, Shaw AFB, S.C.

Senior Airman Charles Malone, 28th OWS, Shaw AFB, S.C.
Senior Airman Robert Meyer, 104th WF, Camp Fremont, Md. (ANG)
Senior Airman, Elizabeth Nastiak, 25th OWS, Davis Monthan AFB, Ariz.
Senior Airman Chyan Smith, 25th OWS, Davis Monthan AFB, Ariz.
Senior Airman Mitchell Valentine, 11th OWS, Elmendorf AFB, Alaska
Senior Airman Miranda Williamson, 25th OWS, Davis Monthan, Ariz.
Airman 1st Class Rebecca Ambrose, USAF OWS, Sembach AB, Germany
Airman 1st Class Callie Andersen, USAF OWS, Sembach AB, Germany
Airman 1st Class Cecil Anderson, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Thomas Atkinson, 11th OWS, Elmendorf AFB, Alaska
Airman 1st Class Karen Baker, USAF OWS, Sembach AB, Germany
Airman 1st Class Louis Chatfield, 126th WF, Milwaukee, Wis. (ANG)
Airman 1st Class Sarah Cole, USAF OWS, Sembach AB, Germany
Airman 1st Class Summer Covington, 15th OWS, Scott AFB, Ill.
Airman 1st Class Bryan Cribb, 11th OWS, Elmendorf AFB, Alaska
Airman 1st Class Joel Davida-Rodriguez, 105th WF, Nashville, Tenn. (ANG)
Airman 1st Class Jessica Davis, USAF OWS, Sembach AB, Germany
Airman 1st Class Edward Dieus, 25th OWS, Davis Monthan AFB, Ariz.
Airman 1st Class Matthew Drew, 13th OWS, Scott AFB, Ill.
Airman 1st Class Christopher Eklund, 15th OWS, Scott AFB, Ill.
Airman 1st Class Roy Evans, 104th WF, Baltimore, Md. (ANG)
Airman 1st Class Mark Faulkner, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Gavle Fest, 15th OWS, Scott AFB, Ill.
Airman 1st Class Joel Harrington, 26th OWS, Barksdale AFB, La.
Airman 1st Class, Christian Hegefeld, 15th OWS, Scott AFB, Ill.
Airman 1st Class Jeffrey Houser, USAF OWS, Sembach, Germany
Airman 1st Class Joseph Jackson, 11th OWS, Elmendorf AFB, Alaska
Airman 1st Class Joshua Johnson, 15th OWS, Scott AFB, Ill.
Airman 1st Class Josh Kauffeld, USAF OWS, Sembach AB, Germany
Airman 1st Class Nicole Nieratko, 15th OWS, Davis Monthan AFB, Ariz.
Airman 1st Class David Ninesling, 26th OWS, Barksdale AFB, La.
Airman 1st Class Amanda Peterson, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Emille Petry, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Christopher Quimby, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Jason Ramos, 15th OWS, Scott AFB, Ill.
Airman 1st Class Jonathan Readeau, 15th OWS, Davis Monthan AFB, Ariz.
Airman 1st Class Tanya Rucke, USAF OWS, Sembach AB, Germany
Airman 1st Class Robert Schmidt, 25th OWS, Davis Monthan AFB, Ariz.
Airman 1st Class Ryan Schrock, 15th OWS, Scott AFB, Ill.
Airman 1st Class Brian Stambler, 13th OWS, Scott AFB, Ill.
Airman 1st Class Paige Sutton, 28th OWS, Shaw AFB, S.C.
Airman 1st Class Joseph Yount, 28th OWS, Shaw AFB, S.C.
Airman Kenneth Aersnault, 28th OWS, Shaw AFB, S.C.
Airman Brandon Brickman, USAF OWS, Sembach, Germany
Airman Lauren Casciatore, 15th OWS, Scott AFB, Ill.
Airman Lemeitra Conan, 28th OWS, Shaw AFB, S.C.

Airman Michael Fujikawa, 25th OWS, Davis Monthan AFB, Ariz.
Airman Sara Hadlock, 28th OWS, Shaw AFB, S.C.
Airman Jon Hardage, USAF OWS, Sembach AB, Germany
Airman Teran Echegoven-McCabe, 20th OWS, Yokota AB, Japan
Airman Michael King, 15th OWS, Scott AFB, Ill.
Airman Aaron McMahon, USAF OWS, Sembach AB, Germany
Airman James Moats, USAF OWS, Sembach AB, Germany
Airman Jayson Ott, 28th OWS, Shaw AFB, S.C.
Airman Derek Provost, 28th OWS, Shaw AFB, S.C.
Airman Travis Richeal, 17th OWS, Hickam AFB, Hawaii
Airman Peter Shutes, USAF OWS, Sembach AB, Germany
Airman Theresa Siebert, USAF OWS, Sembach AB, Germany
Airman Jill Stephens, 15th OWS, Scott AFB, Ill.
Airman Nathan Wingert, 28th OWS, Shaw AFB, S.C.

COMBAT WEATHER TEAM OPERATIONS COURSE
Staff Sgt. Thomas Doerner, 15th OWS, Scott AFB, Ill.
Staff Sgt. Terry Hutton, 607th OWS, Camp Red Cloud, Korea
Staff Sgt. Donald Millman, 28th OWS, Shaw AFB, S.C.
Senior Airman Maria Crosby, 28th OWS/OSW, Ellsworth AFB, S.D.
Senior Airman Lucas Pannin, 319th OWS, Grand Forks AFB, N.D.
Senior Airman Troy Goerck, 28th OWS/OSW, Ellsworth AFB, S.D.
Senior Airman Beaudon Holda, 28th OWS/OSW, Ellsworth AFB, S.D.
Senior Airman Erick Slonkowski, 97th OWS/OSW, Altus AFB, Okla.
Airman 1st Class Jesus Barron, 7th OWS/OSW, Dyess AFB, Texas
Airman 1st Class Katie Edwards, 49th OWS/OSW, Holloman AFB, N.M.
Airman 1st Class Robert Frost, 319th OWS/OSW, Grand Forks AFB, N.D.
Airman 1st Class John Peck, 49th OWS/OSW, Holloman AFB, N.M.
Airman 1st Class Marquisia Thomkins, 3rd WS, Ft. Hood, Texas

NCO ACADEMY
Tech. Sgt. Dorothy Posey, Det. 1, 18th WS, Ft. Eustis, Va. (Distinguished Graduate)
Tech. Sgt. Elizabeth White, 4th OWS/OSW, Seymour Johnson AFB, N.C.

AIRMAN LEADERSHIP SCHOOL
Senior Airman Shannon Durham, AFCCO, Asheville, N.C. (Distinguished Graduate)

NTPS MANAGERS COURSE
Capt. Darrel Loon, 86th OWS/OSW, Ramstein AB, Germany
Master Sgt. Brian McDonald, 49th OWS/OSW, Holloman AFB, N.M.
Tech. Sgt. Robert Clarke, 51st OWS/OSW, Osan AB, Korea
Staff Sgt. Keith Bachand, 17th OWS, Hickam AFB, Hawaii
Staff Sgt. Sharon Burnett, 86th OWS/OSW, Ramstein AB, Germany
Staff Sgt. Anthony Danner, 57th OWS/OSW, Nellis AFB, Nev.
Staff Sgt. Philip Mohr, 56th OWS/OSW, Luke AFB, Ariz.
Staff Sgt. James Moullet, 21st ASOS/ASW, Fort Peck AAF, La.
Staff Sgt. Joel Robaczyn, 49th OWS/OSW, Holloman AFB, N.M.
Staff Sgt. Corey Worster, 81st OWS/OSW, Keesler AFB, Miss.

Senior Airman Jackie Dalzell, Det. 3, 7th WS, Katterbach AAF, Germany
Senior Airman Sean Lewin, 75th OWS/OSW, Hill AFB, Utah

7-LEVEL COURSE
Staff Sgt. Alison Long, 25th ASOS, Wheeler AAF, Hawaii

Coins

GENERAL'S COINS:
Mr. Yoshinori Ogawa, 20th OWS, Yokota AB, Japan
Lt. Col. Scott Heckman, 36th OWS/OSW, Andersen AFB, Guam
Lt. Col. Mark Miller, 607th WS, Yongsan AIN, Korea
Lt. Col. Bill Spendley, 17th OWS, Hickam AFB, Hawaii
Lt. Col. Kim Waldron, 20th OWS, Yokota AB, Japan
Maj. David Andrus, 20th OWS, Yokota AB, Japan
Maj. Randall Bartlett, 20th OWS, Yokota AB, Japan
Maj. Chris Bjorkman, 607th WS, Yongsan AIN, Korea
Maj. Ted Dimecki, PACAF/DOW, Hickam AFB, Hawaii
Maj. Eric Grelson, Det. 1, 607th WS, Camp Red Cloud, Korea
Maj. Bruce Muller, PACAF/DOW, Hickam AFB, Hawaii
Maj. Tom Tibbets, 18th OWS/OSW, Kadena AB, Japan
Maj. Steve Ursek, 607th COS/DOW (HTACC), Osan AB, Korea
Capt. Ariel Acebal, AFWA Det. 5, Palohua, Hawaii
Capt. Melissa Barbaro, 51st OWS/OSW, Osan AB, Korea
Capt. Steve Davis, 353rd OWS/OSW, Kadena AB, Japan
Capt. Ed Goetz, 8th OWS/OSW, Kunsan AB, Korea
Capt. Andrea Hagen, Det. 2, 607th WS, Camp Humphreys, Korea
Capt. Sandy Kirk, 607th WS, Yongsan AIN, Korea
Capt. Tricia Kobberdahl, 607th COS/DOW (HTACC), Osan AB, Korea
Capt. Randy Maraj, 36th OWS/OSW, Andersen AFB, Guam
Capt. Lee Nelson, 607th WS, Yongsan AIN, Korea
Capt. Neil Sanger, 374th OWS/OSW, Yokota AB, Japan
Capt. Aaron Williams, 18th OWS/OSW, Kadena AB, Japan
1st Lt. Mindy A. Chavez, Det. 2, 607th WS, Camp Humphreys, Korea
1st Lt. Derrick Gurtler, OL-A, 607th WS, UN Compound, Seoul, Korea
1st Lt. Whitney Heyward, 17th OWS, Hickam AFB, Hawaii
1st Lt. Matthew Sattler, OL-A, Det. 1, 607th WS, Camp Stanley, Korea
1st Lt. Richard Stedronski, 36th OWS/OSW, Andersen AFB, Guam
2nd Lt. Robert Branham, 374th OWS/OSW, Yokota AB, Japan
2nd Lt. Ricardo Brunet, 20th OWS, Yokota AB, Japan
Chief Master Sgt. Paul Rano, 20th OWS, Yokota AB, Japan
Chief Master Sgt. Fred Steve Rosemier, 20th OWS, Yokota AB, Japan
Senior Master Sgt. John Carroll, 20th OWS, Yokota AB, Japan
Senior Master Sgt. Lebbe, 607th WS, Yongsan AIN, Korea
Master Sgt. Robin Clark, HQ AFWA, Offutt AFB, Neb.
Master Sgt. Daniel Choplick, Jr., 8th OWS/OSW, Kunsan AB, Korea
Master Sgt. Mark Ditter, 17th OWS, Hickam AFB, Hawaii
Master Sgt. John Gist, 51st OWS/OSW, Osan AB, Korea
Master Sgt. Keith Johnson, 607th WS, Yongsan AIN, Korea

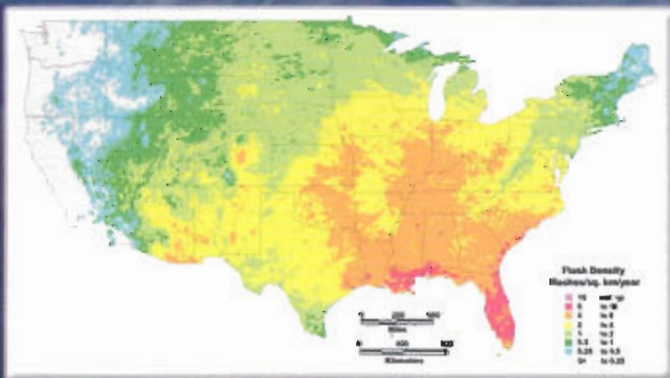
Master Sgt. John Joyce, Det. 2, 607th WS, Camp Humphreys, Korea
Master Sgt. Clifford Lucente OL-A, Det. 1, 607th WS, Camp Stanley, Korea
Master Sgt. Jairam Singh, 17th OWS, Hickam AFB, Hawaii
Master Sgt. James Strong, 20th OWS, Yokota AB, Japan
Master Sgt. David Vandenhoevel, 36th OWS/OSW, Andersen AFB, Guam
Master Sgt. Kieth Wagner, Det. 1, 607th WS, Camp Red Cloud, Korea
Tech. Sgt. Adam Christian, 17th OWS, Hickam AFB, Hawaii
Tech. Sgt. Steven Forshee, Det. 1, 607th WS, Camp Red Cloud, Korea
Tech. Sgt. Robert Lloyd, 8th OWS/OSW, Kunsan AB, Korea
Tech. Sgt. Ronald Meadows, 36th OWS/OSW, Andersen AFB, Guam
Tech. Sgt. Shane McIntire, AFWA Det. 5, Palohua, Hawaii
Tech. Sgt. Willis Musette, 18th OWS/OSW, Kadena AB, Japan
Tech. Sgt. Garry Patterson, 374th OWS/OSW, Yokota AB, Japan
Tech. Sgt. John Robbins, OL-A, 607th WS, UN Compound, Seoul, Korea
Tech. Sgt. Jason Runese, 17th OWS (JWC), Bear Harbor, Hawaii
Tech. Sgt. Tina Sosa, 20th OWS, Yokota AB, Japan
Staff Sgt. Katrina Blanchard, 20th OWS, Yokota AB, Japan
Staff Sgt. Natasha Carter, 17th OWS, Hickam AFB, Hawaii
Staff Sgt. Robert Clark, OL-B, Det. 1, 607th WS, Camp Page, Korea
Staff Sgt. Huan Duong, OL-C, Det. 1, 607th WS, Camp Stanton, Korea
Staff Sgt. Daniel Hayes, 374th OWS/OSW, Yokota AB, Japan
Staff Sgt. Jeremy Henderson, 353rd OWS/OSW, Kadena AB, Japan
Staff Sgt. Letonia James, 17th OWS, Hickam AFB, Hawaii
Staff Sgt. Kenneth Lester, Jr., 374th OWS/OSW, Yokota AB, Japan
Staff Sgt. Michelle Louis, 20th OWS, Yokota AB, Japan
Staff Sgt. Damien Madison, 18th OWS/OSW, Kadena AB, Japan
Staff Sgt. Jeffrey Rook, OL-A, Det. 1, 607th WS, Camp Stanley, Korea
Staff Sgt. Joshua Rozowski, 607th COS/DOW (HTACC), Osan AB, Korea
Staff Sgt. Anthony Slaughter, OL-A, 607th WS, UN Compound, Seoul, Korea
Staff Sgt. Yasmeen Wilson, 18th OWS/OSW, Kadena AB, Japan
Senior Airman Kimberly Green, 20th OWS, Yokota AB, Japan
Senior Airman Kimberly Hawn, 36th OWS/OSW, Andersen AFB, Guam
Senior Airman Cameron Kehler, 51st OWS/OSW, Osan AB, Korea
Senior Airman Alisha Lawson, 607th COS/DOW (HTACC), Osan AB, Korea
Senior Airman Richard Lawson, 607th WS, Yongsan AIN, Korea
Senior Airman Ashley Manger, Det. 2, 607th WS, Camp Humphreys, Korea
Senior Airman Jose Melendez, Det. 2, 607th WS, Camp Humphreys, Korea
Senior Airman Lucas Menabaker, 17th OWS (JWC), Bear Harbor, Hawaii
Senior Airman Heath Minnick, 20th OWS, Yokota AB, Japan
Senior Airman Kenneth Prvor, OL-A, Det. 1, 607th WS, Camp Stanley, Korea
Senior Airman Michael Radd, 353rd OWS/OSW, Kadena AB, Japan
Senior Airman Guillermo Rosas, HQ AFWA, Offutt AFB, Neb.
Senior Airman Sarah Sabins, 374th OWS/OSW, Yokota AB, Japan
Senior Airman Joshua Uhl, 20th OWS, Yokota AB, Japan
Airman 1st Class Ayuna Hutchins, 17th OWS, Hickam AFB, Hawaii
Airman 1st Class Michelle Elizabeth Schloter, 20th OWS, Yokota AB, Japan



Forecasting for Life on the Arctic Front



Weather Agency Celebrates 60 Years of Weather Heritage



Teaching Lightning Safety, Saving Lives