

What's Inside for December 1996

PERSPECTIVES FROM THE TOP

-- Air Force Director of Weather Brig. Gen. Fred Lewis discusses re-engineering Air Force Weather ... **Page 3**

COMMAND LINE -- AWS Commander Col. Joseph D. Dushan talks about creating a truly superior weather capability ... **Page 4**

ENLISTED VIEW -- Air Force Superintendent of Weather Chief Master Sgt. Jim Hoy ... **Page 5**

STRAIGHT TALK -- Planning your career early ... **Page 6**

OFFICER TALK -- Personnel notes about special duty opportunities, regular commissions, and ratings changes ... **Page 7**

WEATHER HISTORY -- Weather troops open hearts at holidays ... **Pages 8-9**

SALUTES -- Awards and decorations, promotions, hails and farewells, education, and more ... **Pages 10-11**

TECHNOLOGY, PLANS AND PROGRAMS -- Fatal lightning strike spurs action concerning safety standard ... **Pages 16-17**

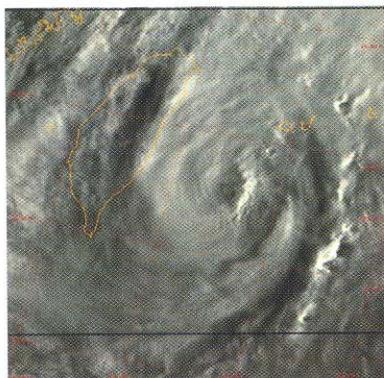
SYSTEMS -- AWDS Product Viewer provides easy access to weather information on your computer ... **Page 18**

QUALITY AIR FORCE -- Understanding the terminology of quality ... **Page 19**

OBSERVATIONS FROM THE FIELD -- Stories about what's going on in YOUR world ... **Page 20**

WEATHER TECHNOLOGY -- How a new software program uses weather data to help pilots locate targets ... **Page 21**

SPOTLIGHT



The Joint Typhoon Warning Center -- This joint service unit at Andersen AFB, Guam, tracks one of the most destructive forces of nature on the planet -- the typhoon.

... **Pages 12-15**

Cover photos and photos on pages 12-15 courtesy of the Joint Typhoon Warning Center and NASA's Jet Propulsion Laboratory.



Air Weather Service
OBSERVER Editorial Staff

Commander
Air Weather Service
Col. Joseph D. Dushan

Vice Commander
Headquarters Consultant
Col. Gerald F. Riley, Jr.

Chief, Public Affairs
Master Sgt. Don Schmidt

Editor
NCOIC, Internal Communications
Staff Sgt. Steve Elliott

Headquarters Consultants
Maj. John Pino
Capt. Vicki Michetti
Capt. Rick Davila
Capt. Riley Jay
1st Lt. Jahna Schadt
Staff Sgt. Rich Slominsky
Ms. Patricia Warner

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

HQ AWS/RMA
102 W. Losey St., Rm. 105
Scott AFB, IL 62225-5206

Please call (618) 256-3350 ext. 334, or DSN 576-3350, ext 334, for more information about this publication. Send faxes to: DSN 576-5401 or CMCL (618) 256-5401. Electronic mail should be addressed to:

"elliotts@hqaws.safb.af.mil" or
"schmidt@hqaws.safb.af.mil"

Distribution is one copy for every four people assigned to Air Force Weather. Printed by Schwarzkopf Publishing, Alton, Ill.

Supporting The Warfighter

Many Factors Driving Re-engineering Efforts



by Brig. Gen. Fred Lewis
Air Force Director of Weather

I want to begin by thanking everyone in Air Force Weather for their outstanding efforts, from Bosnia to Saudi to Korea to Panama to the CONUS, and all points in between.

You have done superbly this year providing on-target space and terrestrial weather support to our customers in the DoD, Air Force, Army, and Joint community. All of us in the Air Force Directorate of Weather hope you had a great holiday season. For those of you deployed and away from family and friends, I extend my personal gratitude for your efforts — you are selfless weather warriors whom we are all very proud of — THANKS!

Now let me share some of my thoughts on the state of our Air Force Weather re-engineering effort. As I travel around, I get many questions on what we are doing. Hopefully, the information below will help to answer some of your questions.

The bottom line is simple: We are on the right track to make things better in Air Force Weather (AFW) — for ourselves, for you (our people), and most important, for our customers: the warfighter

In my opinion, our current AFW structure and processes come from the “old” Air Weather Service that was, as many of you know and would agree, designed to satisfy customer requirements from the Cold War Era. That in itself does not make the organizational structure or weather support processes wrong ... however, in a time of changing operations concepts and shrinking resources, we must seek possible changes that will allow us to better support today’s warfighter.

In developing the new AFW, we’re going directly to our customers to create weather operations that are closely in tune with the wants and needs of America’s air and space forces. By involving our informed and discerning

customers (warfighters) and by carefully measuring and benchmarking competing weather information sources, AFW will create a product and service structure with a huge potential to emphasize the value of our people and of our uniquely tailored information — this structure will enable us to provide what Col. Mike Neyland, USAF/DOW, calls “RELEVANT weather support” for the warfighters.

As I discussed in my last *OBSERVER* article, AFW senior leadership (officer and enlisted) met at a functional review in October to lay the foundation for re-engineering Air Force Weather.

Changes in customer requirements (joint and combined doctrine, high tech weapons); acquisition (rapid prototyping, more open architectures); resources (less people, less experience, less O&M and R&D money); technology (the information age); and doctrine (smaller footprint in theater with information dominance; Global Engagement) are driving us to make changes in how AFW conducts business.

The items listed below are also driving factors in our re-engineering efforts:

- Operations tempo. The base weather stations today are staffed based on a manpower standard geared to the Cold War. During that time, it was less common for the weather station to have someone deployed. Today, nearly every weather station has personnel deployed supporting military operations and contingencies overseas, sustainment operations in CONUS, conducting training exercises, or in day-to-day employment in places like Bosnia, Saudi Arabia, and Korea.

- Low reenlistment rates and accessions. Recent first-term reenlistment rates in AFW are below the Air Force

first-term rates. We have sustained our enlisted AFW force with retrainees for many years, but current first-term reenlistment rates are driving us to explore new opportunities. For FY94-97, we have also missed our lieutenant accessions goal by 25 percent, accessing 160 instead of the required 216. There is some good news -- HQ USAF/DP recently increased the Selective Reenlistment Bonus (SRB) at zone A from a multiple of one to a multiple of two for the weather career field.

- Low experience levels. The average enlisted experience level in the weather stations has dropped over the last 30 years from approximately 13.5 years to around 3.5 years. Our trainers at the schoolhouse are senior airmen through master sergeants, where we once had officer meteorologists and senior NCOs. There are now airmen first class and senior airmen working as forecasters at the counter where we once had only NCOs. Station leadership now consists mostly of company grade officers where we once had field graders.

These reduced experience levels are further compounded when coupled with the fact that we did away with our mid-level operational squadrons and the mentoring/training/experience they provided.

The bottom line is we have less experienced people training and leading lesser experienced people. In spite of this, the outstanding people in AFW continue to do a quality job. We firmly believe that with the right organizational structure, right technology, and right business processes we can be even better — providing our customers “world class” support.

See RE-ENGINEERING,
continued on Page 23

Re-Engineering Air Force Weather

Stepping Boldly Toward The Future

Re-engineering the weather career field was the primary topic discussed at the recent Air Force Weather (AFW) Functional Review at Offutt AFB, Neb.

Air Force Director of Weather Brig. Gen. Fred Lewis met with colonels, chief master sergeants, and other senior leaders from across the weather functional area to map out ideas to strengthen AFW and chart a steady course toward the future.

Much more will be written about the process and direction in coming months.

This article will give a brief overview. I hope it will also give you some confidence that the team is on the right track.

Why re-engineering - and why now? Those are fair questions.

First, I believe most will agree we have insufficient personnel in our base and post weather stations, at our centers, and on headquarters staffs to do today's job. Feel free to

blame Air Force downsizing, personnel trade-offs for Automated Weather Distribution System (AWDS), poor reenlistment rates, or any other of a number of factors, but the bottom line is we need more manpower.

Second, even though we are understaffed, the task loading and operations tempo at every unit continues to increase. Weather folks everywhere are surging hard and there seems no end in sight.

Third, we are not the only ones to feel this increased tempo and workload. That means we are unlikely to get additional people, or more dollars, or more time. The challenges will probably grow and the pressure to accomplish greater

by Col. Joseph D. Dushan
Commander
Air Weather Service

efficiency with fewer resources will increase.

Why re-engineer? Simply put, we must. There is no other choice.

Like the concepts of "truth" or "beauty" or "success," re-engineering can mean many different things depending on your vantage point.

"This is your best opportunity to help shape the Air Force Weather business for decades to come. Get involved and stay involved. When the team visits or sends out a survey, please take the time to get your ideas on the table. Make certain the 'new' AFW meets your requirements."



Col. Joseph D. Dushan
Commander, Air Weather Service

I'm pleased to report the Re-engineering Action Team, in partnership with the Air Force Management Engineering Agency, is doing a superbly thorough job. They began by mapping out a detailed and comprehensive look at the way AFW does business today.

Then, the team determined strengths and weaknesses with the current process, and identified opportunities to improve upon strengths and correct shortfalls. They will do this for every aspect of our business -- communications, organization,

acquisition, operations, training, and marketing.

When complete, the team will present results to everyone in AFW and General Lewis will brief options and recommendations to the Air Force Chief of Staff.

Former President Dwight D. Eisenhower once said: *"Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field."*

The re-engineering architects won't have to execute the mission or deploy to contingency areas or find time to conduct technical training or pull base additional duties. YOU will.

For this reason, the Re-engineering Action Team, headed by Col. (select) Paul Harris, AF/XOWR, and Lt. Col. Joel Martin, AWS/SC, needs your ideas and input.

This is your best opportunity to help shape the Air Force Weather business for decades to come. I strongly urge you to get involved and stay involved. When the team visits or sends out a survey, please take the time to get your ideas on the table. Make certain the "new" AFW meets your requirements.

I am very proud of the work the re-engineering team has done so far and I believe you'll be proud as well. They have put people and mission as their most important priorities and have set out on an ambitious course towards the future.

We've a long way to go, but we're on the right road. We need your ideas, energy, enthusiasm, and confidence. Then, together, we can create a truly superior weather capability for tomorrow's Air Force and Army warrior.



Have a question for Air Weather Service Commander Col. Joseph D. Dushan? Write to: HQ AWS/CC, 102 W. Losey St., Rm. 105, Scott AFB, Ill. 62225-5206.

Training For Deployments

Air Force Weather Ahead Of The Pack

The *Air Force Times* recently ran an article entitled “More like Marines.” While the article primarily discussed officer training, the last paragraph contained some information about Air Force enlisted training.

The November 11, 1996, article on page 3, said, “... the senior enlisted advisors ... agreed that basic airmen should get some field experience. Since then, a number of training flights have been taken to the field, where they stay overnight in tents, eat Meals-Ready-to-Eat (MREs) and go through team-building exercises ... The idea is to put the young airman into a bare-bones deployment scenario.” Two weeks later, *Air Force Times* had a more detailed story about that training.

My article is not about the Air Force’s changes in basic training to focus on deployed operations, but how Air Force Weather training has already adjusted, focusing on the same issue—deployed operations. We came to the realization a couple of years ago our weather force did not have adequate training to survive and operate in deployed operation.

Representatives from the major commands first defined what the training requirements were for our schoolhouse. Then, the staffs of the 334th Training Squadron Weather Flight and Det. 1, 335 TRS, who conduct the training, developed a program that’s been on-line for about two years. I’d like to compliment our instructor force at Hurlburt — Chief Master Sgt. Bob Platt, who has since retired, and Master Sgt. Mike Boettcher and the instructors who have created and conducted combat skills training that ranks first in its class.

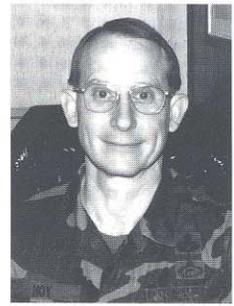
We’re not finished yet. We now provide the training in conjunction with the enlisted initial skills course, transporting the students over to Hurlburt for the five-day course. In November, the major commands agreed to expand

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

the course to include all officers attending the weather officer course. With the activation of the officer weather combat/field skills course soon, we’ll have completed the first phase of our training plan.

The current weather combat/field skills course focuses on surviving to operate in an austere environment. We’ll soon expand that training to include a field training exercise (FTX), where students use their weather skills in a deployed scenario. We have had some of that training in the COMBAT LIGHTNING course, but we need to expand its scope so that every weather person gets the training. That’s the next phase—incorporating an FTX into the schoolhouse. Our training cadre have developed the course ... now we have the challenge of incorporating it into an already full training schedule.

Where will we put it? We’re looking at including it in the able forecaster course. Questions as to the length of the class, etc., still need to be answered as we continue to focus on warfighter sup-



port. As the Air Force and Army — our customers — continue in a high operations tempo, one of our goals will remain training in survival and field skills.

I’ve seen over and over again in my “short” career where we have gone into harm’s way with the warfighter ill-prepared for combat — that’s not a legacy that I want to leave.

So, as I close this session with you, it appears to me that we’re in lock-step with the Air Force — a focus on deployed/warfighter skills so that we can survive and operate. Again, my compliments to the schoolhouse for a super course.



Photo by Staff Sgt. Steve Elliott

Training new weather troops for deployments has been going on for almost two years at Hurlburt Field.

Planning Your Career

Decide Early Where You Want To Go

This month, I'm going to give you my perspective on developing a career path. Keep in mind these are my thoughts and no means a sure bet for being promoted. However, I feel it'll keep you in the running.

We can all open AFP 36-2241, volumes 1 and 2, and read how the promotion system works. However, there is more to the promotion system than just studying and testing. Studying and testing are just a couple of parts of developing and following a career path.

If you decide that you want to be a chief master sergeant "after" you pick up a line number for senior master sergeant, you are already behind the eight ball. If you start thinking about making chief when selected for master sergeant, you're pushing your chances.

What's the point? You need to decide early in your career where you want to go, what degree of effort you'll put forth, and what sacrifices you're willing to make in achieving your goal.

Initially, we have 3-level technical training, and upon graduation receive 5-level CDCs. Then comes the responsibility of becoming proficient within our specific workcenter and getting upgraded. Eventually, we reach a point in our "early careers" where we can look back and say to ourselves we are caught up. NOT! Now is the time to start working on your Community College of the Air Force degree or other career field-related degree.

However, don't become so totally engrossed and consumed in getting a degree that you neglect other responsibilities. Carefully evaluate and balance your time between the job, school, family,

**by Chief Master Sgt. Rick Monette
Superintendent, Mission
Systems Division, HQ AWS/
SY**

unit and community activities.

Volunteer to work on committees within your organization, and support local community and base functions. Become actively involved early in your career and it will soon become second nature.

Look for areas within your workcenter or unit that need improving and volunteer to "strap it on." The worst that can happen is you may fail in an attempt to do something. If it happens, just pick up the pieces, rearrange them and plug away at it again. It's not that big a deal.

"Look for areas within your workcenter or unit that need improving and volunteer to 'strap it on.' The worst that can happen is you may fail in an attempt to do something."

**Chief Master Sgt. Rick Monette
AWS Senior Enlisted Advisor**



After you receive your line number for technical sergeant, start looking for career-broadening assignments. Take the time to explore available assignments by using the EQUAL listing. Call the units and find out what the position entails.

If you had the choice of a squadron-level assignment in Hawaii versus a unaccompanied special duty assignment in Naples, Italy, which would you take? That's a tough call. Will you make the sacrifice of family separation that goes with the assignment?

If you can secure a position at a major command, you may have a better



chance of working another career-broadening assignment elsewhere, yet within the same command.

Remember your extracurricular activities? What are you doing with them now? Are you taking part in activities that impact the base or community? I'm not talking about a 10-minute stand at a retreat ceremony (which I encourage), but rather something that requires some of your personal time and effort.

Are you actively involved within your community with such things as "Big Brother," "Paint Your Heart Out", "Neighborhood Citizen's Patrol", "Parent-Teacher-Student Association", or church activities, etc.? The list of worthy organizations is endless.

Are you taking the lead in unit/base activities, booster clubs, social committees, unit/base advisory council meetings, etc.? Have you met the quarterly boards yet? If not, ask why and what you need to do to meet them.

By the time you pin on master sergeant, you should have your sights set on an assignment to a MAJCOM or multi-national headquarters staff position. Even if you don't want to go to Turkey, that's where you need to go if that's where the job is.

Remember the goals you set early in your career? This is just one of many obstacles you will meet or sacrifices you will make. You may even find that your assignment to Turkey is the best you'll ever have and one of the best-kept secrets around.

When you finally hit a point in your career where you feel you've "been there, seen it, and done it," you are at the final steps of reaching your goal.

**See PLANNING,
continued on Page 22**

Personnel Notes

Opportunities, Commissions, Ratings

In this month, I have several topics to discuss concerning special duty opportunities, commissioning, and changes in ratings:

Special Duty Opportunities For Weather Officers

The Air Staff recently announced the conversion of the command post career field (13BXE) and Operations Plans (13BXE) career fields to special duty identifiers. All non-rated line officers will have the opportunity to fill these challenging positions as a special duty assignment.

Consequently, our weather assignment officer at the Air Force Personnel Center (AFPC) must fill an annual quota for captains, majors and lieutenant colonels. Hopefully, there will be enough volunteers for these positions. If there are not enough volunteers, the weather assignment team will task (on a fair-share basis) non-volunteers.

If a particular job reaches the non-volunteer point, and it's our turn to fill the position, we select the top non-volunteer weather officer.

If you have never been overseas and are a lieutenant or captain with two years on station, or a major, you are probably "hot" for an assignment. If possible, non-volunteer quotas will be short tours.

This rationale will enable a non-volunteer to spend only one year (versus three years) outside the weather career field and will give the officer overseas, as well as short tour, credit.

Other special duty opportunities include ROTC, Squadron Officer School, and Officer Training

by Maj. Cecilia M. Grindinger
Air Weather Service
Chief of Personnel

School instructors. You can volunteer for any of these career-broadening jobs on Daedalus or the AFPC homepage (<http://www.afpc.af.mil>).

Regular Air Force Officer Commissions

The FY92 National Defense Authorization Act mandated that as of Oct. 1, 1996, all officers must enter active duty with a reserve commission. In addition, officers must complete one year of active commissioned service before receiving a regular appointment. This law change prompted a thorough review of augmentation procedures.

As a result, starting in FY98, regular commissions will be tendered in conjunction with selection for promotion to major. The last regular board, under current policies, will be the CY97 board March 10, 1997.

Positioning the regular augmentation career gate later in an individual's career allows all officers the maximum time to develop officer skills, become technically proficient in career fields, build on fundamental leadership skills gained through Squadron Officer School (SOS) and demonstrate proven duty performance.

Officers are encouraged to concentrate on learning on-the-job skills in the first four years of service, and attend SOS at the four- to seven-year point. Augmentation and promotion to major will now occur at 11 years for line officers.

At the same time, linking augmentation with promotion simplifies and standardizes this Air Force program across all competitive categories.

All officers receive screening for



career potential at the same time, except for medical and dental corps. Selection is based on the best qualified basis without varying augmentation quotas by competitive category.

Flight Commander Rating Changes

Guidance was recently received stating there are some inconsistencies in the implementation of the Corona Fall 95 decision to standardize flight commander rating chains and duty titles.

Major commands and Military Personnel Flights were charged to ensure the proper duty titles and rating chains were in place. However, you may want to check your unit's duty titles and rating chains to ensure your unit is in compliance.

Specifically, the standardization policy applies to both operational and functional flights, and is based on four basic tenets:

- Flight commanders are rated by their squadron commanders.

- When an officer heads a flight, the position is a flight commander.

- When an enlisted or civilian heads a flight, the position is a flight chief.

- Duty titles should follow this organizational structure.

This column is written specifically to meet your needs and concerns. If you have specific career questions, or issues that you need addressed, contact me and I'll either answer them in future columns or get back to you personally.

Contact me by electronic mail at "grindinc@hqaws.safb.af.mil" or call DSN 576-4895, ext. 344.

Christmas Spirit

Weather Troops Open Hearts At Holidays

In the true spirit of caring and sharing that this time of year seems to bring forth, here are some wonderful past projects that show Air Force Weather has always had a big heart!

In the photograph on this page, four airmen from Det. 36, 8th Weather Group at McClellan AFB, Calif., repair toys for needy children in support of a local welfare agency. Det. 19,

**by Ms. Lil Wilbur
Air Weather Service
Chief of History**

24th WS also participated in this volunteer effort. All of the individuals worked on these toys during their off-duty time.

In the photo on page 9, airmen of the 56th Weather Reconnaissance Squadron, Yokota AB, Japan, prepared these



gifts for Trust Territory Islanders in 1960. Christmas was a lot more fun for 1,200 inhabitants of six islands thanks to the gifts donated by the many caring people at Yokota, Tachikawa and Johnson ABs. Once donations were prepared the 56th WRS began their airdrop bringing Yuletide Cheer to many.

1986 - As always, weather people became involved in The "Christmas Drop"



Photos courtesy HQ AWS History Office

Airman 1st Class Henry Raymond, Airman 3rd Class John McFarland, and Staff Sgt. Fred Burchardt of Det. 36, 8th WG, McClellan AFB, Calif.

sponsored by the 54th WRS and Det. 3, 1st Weather Wing. WC-130 crews dropped over 15,000 gifts to approximately 12,000 residents of the 35 Micronesian Islands and atolls.

Just a few weeks before that airdrop, a supertyphoon had hit Saipan and left them without water and power. Following the devastation, members of the 54th WRS and the 605th Military Airlift Support Squadron provided more than seven tons of food, clothing and supplies.

1993 - The folks at Air Force Global Weather Central had no lack of Christmas spirit when they put together packages for people at remote weather sites. In the weeks, even months, before Christmas, the halls of AFGWC were full of fund-raising activities for "Operation Remote Christmas."

As 1996 draws to a close, here are some trivia tidbits from Air Weather Service history for the month of December.

■ The *OBSERVER* was first issued on Dec. 15, 1943 by the 2nd Weather Region.

■ On Dec. 26, 1941, a base weather station was activated at Victorville Army Air Field in California to provide support to the Air Corps Advanced Flying School. The base was renamed George AFB in June 1950.

■ A WB-50 belonging to Det. 1, 53rd Weather Reconnaissance Squadron flew its last operational mission out of Kindley AFB, Bermuda on Dec. 31, 1963. On Jan. 1, 1964, the unit was inactivated, marking the end of the mission in Bermuda.

■ On Dec. 6, 1965, Maj. Ray B. Coffman received the Bronze Star Medal for his service while commander of Det. 14, 30th WS in Vietnam.

■ APOLLO VIII, the second manned space shot, successfully lifted off from Cape Kennedy, Fla., Dec. 21, 1968. Det. 11, 6th Weather Wing, Air Force Eastern Test Range and the 57th Weather Reconnaissance Squadron, Hickam AFB, Hawaii, provided support for this flight.

If you have any stories, artifacts, photos, etc.,...contact Lil Wilbur at E-mail "wilbur1@hqaws.safb.af.mil" or call (618) 256-5654, ext. 258 or DSN 576-5654, ext. 258.

December 1996



Airmen from the 56th WRS, Yokota AB, Japan.

This poem first appeared in the *OBSERVER* in December 1959: The author is unknown.

*"Twas the night before Christmas,
And all over the nation,
The observers were busy
In each weather station*

*The temperature was dropping,
The ceilings were low,
The ground was all covered,
With gleaming white snow.*

*When on the receivers
There arose such a clatter
The observers all cried
what the H— is the matter?*

*I went to the door
And gazed up into heaven
As down through the clouds
Came a C-47.*

*The pilot was dressed
All in khaki so slick
But I knew by his eagles
It wasn't St. Nick.*

*He rushed into the station
And gave me a whistle,
Picked up his clearance
And was gone like a missile.*

*Then I heard him exclaim
As he flew out of sight
"Now what good is Christmas
If you must work all night!"*



DEFENSE MERITORIOUS SERVICE MEDAL

Col. David S. Ladwig, HQ Air Force Global Weather Center, Offutt AFB, Neb.



AIR FORCE MERITORIOUS SERVICE MEDAL

Maj. Donald L. Wilson, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Peter L. Glinski, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Angelita F. Lewis, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Walter N. McPherson, Det 7, HQ AFGWC, Tinker AFB, Okla.
 Tech. Sgt. Jeffrey C. Wepler, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Denise L. Salgot, HQ AFGWC, Of futt AFB, Neb.
 Maj. Michael S. Christie, HQ AFSPC/DOR W, Peterson AFB, Colo. (1st OLC)
 Chief Master Sgt. Martin E. Mindnich, HQ AFSPC/DOR W, Peterson AFB, Colo. (3rd OLC)
 Lt. Col. Billy G. Davis, HQ AFSPC/DOR W, Peterson AFB, Colo. (3rd OLC)
 Maj. Michael S. Kapel, 88th WS, Wright-Patterson AFB, Ohio
 Master Sgt. Gerry C. Claycomb, 92nd OSS/OSW, Fairchild AFB, Wash. (1st OLC)



AIR FORCE COMMENDATION MEDAL

1st Lt. Nicole M. Wood, 46th WS, Eglin AFB, Fla.
 Tech. Sgt. Thomas G. Manning, 46th WS, Eglin AFB, Fla. (3rd OLC)
 Capt. Eugene D. Layski, Det. 7, HQ AFGWC, Tinker AFB, Okla.
 Capt. Michael W. Miller, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Carl J. Johnson, HQ AFGWC, Of futt AFB, Neb.
 Tech. Sgt. Michael R. Persian, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Anthony D. Gulbrandsen, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. William A. Kirkpatrick, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. John A. Kramer, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Loretta J. Lemley, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Patricia A. Mumford, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Scott H. Pfender, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Paul A. Phillips, Det. 7, HQ AFGWC, Tinker AFB, Okla.
 Staff Sgt. James R. Pickard, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Milton K. Threet, Det. 7, HQ AFGWC, Tinker AFB, Okla.
 Senior Airman Mark A. Strohl, HQ AFGWC, Of futt AFB, Neb.
 Tech. Sgt. Clark W. Lind, Det. 7, 7th WS, Grafenwoehr, Germany
 Capt. Paul A. Gehred, 88th WS, Wright-Patterson AFB, Ohio
 Capt. Christine Miller, 305th OSS/OSW, McGuire AFB, N.J.

ARMY COMMENDATION MEDAL

Staff Sgt. Bryan E. Ray, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Frederick E. Reynolds, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. John Weber, OL-B, 18th WS, Fort Eustis, Va.

JOINT SERVICE ACHIEVEMENT MEDAL

Capt. Michael J. Dwyer, HQ AFGWC, Of futt AFB, Neb.



AIR FORCE ACHIEVEMENT MEDAL

1st Lt. Chad Gibson, 314th OSS/OSW, Little Rock AFB, Ark.
 2nd Lt. Darryl N. Leon, 314th OSS/OSW, Little Rock AFB, Ark. (1st OLC)
 Senior Airman Nelson B. Reaser, 46th WS, Eglin AFB, Fla.
 Senior Airman Tracey R. Bell, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Hjal Nelson, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Jason O. Pierce, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Shawn M. Steiner, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Cynthia L. Vice, Det. 7, HQ AFGWC, Tinker AFB, Okla.
 Airman 1st Class Joshua L. Gann, Det. 7, HQ AFGWC, Tinker AFB, Okla.
 Master Sgt. Phillip A. Roseberry, 88th WS, Wright-Patterson AFB, Ohio (With Valor)

ARMY ACHIEVEMENT MEDAL

Staff Sgt. Gregory J. Spruck, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. John Weber, OL-B, 18th WS, Fort Eustis, Va.

Tech. Sgt. Michael A. Willen, Det. 7, 7th WS, Grafenwoehr, Germany
 Senior Airman Mark A. Bruggeman, 92nd OSS/OSW, Fairchild AFB, Wash.



AIR FORCE GOOD CONDUCT MEDAL

Staff Sgt. Kevin McKinney, 314th OSS/OSW, Little Rock AFB, Ark. (3rd OLC)
 Staff Sgt. Kelvin J. Bailey, 314th OSS/OSW, Little Rock AFB, Ark. (5th OLC)
 Master Sgt. Philip Thompson, 314th OSS/OSW, Little Rock AFB, Ark. (6th OLC)
 Chief Master Sgt. Willford D. Little, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Victoria L. Edwards, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. William C. Ickes, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Doretta D. Johnson, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Peter S. Normandy, HQ AFGWC, Of futt AFB, Neb.
 Tech. Sgt. James J. Barber, HQ AFGWC, Of futt AFB, Neb.
 Tech. Sgt. Harry Druckenmiller, HQ AFGWC, Of futt AFB, Neb.
 Tech. Sgt. Michael Sheldrake, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Richard G. Hittner, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Cassandra C. Kirk, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Jeffrey J. Papka, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Daniel J. Powell, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Mark D. Saeger, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Rory L. Sherman, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Kayne G. Smith, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Bennie G. Solberg, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Kevin J. Truitt, HQ AFGWC, Of futt AFB, Neb.
 Staff Sgt. Jesus S. Valdez, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Vincent A. Heath, HQ AFGWC, Of futt AFB, Neb.
 Senior Airman Lakeitha Luster, 51st OSS/OSW, Osan AB, Korea

AIR FORCE EXPEDITIONARY MEDAL

2nd Lt. Brian A. Schmitker, 4th OSS/OSW, Seymour Johnson AFB, S.C.
 Tech. Sgt. Timothy Edwards, 4th OSS/OSW, Seymour Johnson AFB, S.C.
 Staff Sgt. Dave Quinn, 4th OSS/OSW, Seymour Johnson AFB, S.C.
 Master Sgt. Phillip A. Rosenberry, 88th WS, Wright-Patterson AFB, Ohio

AIR FORCE OUTSTANDING UNIT AWARD

88th Weather Squadron, Wright-Patterson AFB, Ohio

PROMOTIONS



Devin J. Dellarocco, HQ AFGWC, Of futt AFB, Neb.



Julie I. Novy, HQ AFGWC, Of futt AFB, Neb.
 Kara L. Phillips, HQ AFGWC, Of futt AFB, Neb.
 Catherine J. Rourke, 18th WS, Fort Bragg, N.C.
 Andy Goodnite, AFIT/ENP, Wright-Patterson AFB, Ohio
 Diana L. Hajek, AFIT/ENP, Wright-Patterson AFB, Ohio
 Daniel R. Farris, AFIT/ENP, Wright-Patterson AFB, Ohio
 Christopher E. Cantrell, 2nd OSS/OSW, Barksdale AFB, Ala.



Jeffrey A. Baltus, HQ AFGWC, Of futt AFB, Neb.



James C. Lane, 207th Weather Flight, Indianapolis, Ind. (Academy of Military Science graduate)(ANG)



Ronald W. Pagitt, HQ AFGWC, Of futt AFB, Neb.



Jaime Acres, 4th OSS/OSW, Seymour Johnson AFB, S.C.



Nelson W. Lee, 111th WF, Houston, Texas (ANG)
 Clayborn C. Barnett, HQ AFGWC, Of futt AFB, Neb.
 Bruce J. Babcock, 88th WS, Wright-Patterson AFB, Ohio



Todd I. Stephenson, HQ AFGWC, Of futt AFB, Neb.
 Eric H. Apple, HQ AMC TACC/XOW, Scott AFB, Ill.



David Gray, 46th WS, Eglin AFB, Fla.
 Nicole L. Mitchell, 208th WF, Minneapolis, Minn. (ANG)



Craig M. Hays, 46th WS, Eglin AFB, Fla.
 Scott M. Maier, 46th WS, Eglin AFB, Fla. (below the zone)
 Nicholas Barnhardt, 159th WF, Camp Blanding, Fla. (ANG)
 Roberet J. Herndon, 165th WF, Louisville, Ky. (ANG)
 Kevin P. Hickey, 127th WF, Topeka, Kan. (ANG)
 Bryan S. Barks, HQ AFGWC, Of futt AFB, Neb.
 Rebecca M. Carney, HQ AFGWC, Of futt AFB, Neb.
 Daniel J. Stone, HQ AFGWC, Of futt AFB, Neb.
 Kendra Perry, 6th WF, 18th WS, Fort Rucker, Ala.
 Paul B. Krewson, OL-C, 18th WS, Fort Knox, Ky.
 James R. Norton, OL-C, 18th WS, Fort Knox, Ky.
 Edgar Black, 2nd OSS/OSW, Barksdale AFB, La. (below the zone)
 Chad Smith, 2nd OSS/OSW, Barksdale AFB, La. (below the zone)



Mike B. Jones, 4th OSS/OSW, Seymour Johnson AFB, S.C.
 Derrick M. Gildner, 18th WS, Fort Bragg, N.C.
 Craig S. Jackson, 18th WS, Fort Bragg, N.C.
 Mark J. Tinberg, 7th WS, Heidelberg, Germany
 Kevin A. Boehm, 7th WS, Heidelberg, Germany
 Randi K. Fedor, Det. 7, 7th WS, Grafenwoehr, Germany
 Heather N. Burdash, Det. 7, 7th WS, Grafenwoehr, Germany
 Paul Burr, 88th WS, Wright-Patterson AFB, Ohio
 Matt Polen, 88th WS, Wright-Patterson AFB, Ohio
 Eric McGuire, 305th OSS/OSW, McGuire AFB, N.J.

HAILS AND FAREWELLS

1st Lt. Chad Gibson—to Camp Red Cloud, Korea, from 314th OSS/OSW, Little Rock AFB, Ark.
 Airman 1st Class Shelton Robinson—to Yokota AB, Japan, from 314th OSS/OSW, Little Rock AFB, Ark.
 Airman Tracy Beene—to 314th OSS/OSW, Little Rock AFB, Ark., from Keesler AFB, Miss.
 Senior Airman Craig M. Hays—to 46th WS, Eglin AFB, Fla., from Camp Stanley, Korea
 Airman 1st Class Theodore W. Myers—to 46th WS, Eglin AFB, Fla., from Keesler AFB, Miss.
 Staff Sgt. Wayne H. Opie—to 46th WS, Eglin AFB, Fla., from Keesler AFB, Miss.
 Airman 1st Class Marisa Markovsky—to Hanau AAF, Fliegerhorst Kaserne, Germany, from 4th OSS/OSW, Seymour Johnson AFB, S.C.
 Airman 1st Class Raquel Lopes—to 125th WF, Tulsa, Okla., from 122nd WF, New Orleans, La. (ANG)
 Staff Sgt. Nathan S. Dixon—to HQ AFGWC, Of futt AFB, Neb., from Keesler AFB, Miss.
 Senior Airman Eric N. DeVries—to HQ AFGWC, Of futt AFB, Neb., from Holloman AFB, N.M.
 Airman Matthew L. Angelo—to HQ AFGWC, Of futt AFB, Neb., from Keesler AFB, Miss.
 Airman Joshua C. Wyatt—to HQ AFGWC, Of futt AFB, Neb., from Keesler AFB, Miss.
 Staff Sgt. Michael A. Sadowsky—to 51st OSS/OSW, Osan AB, Korea, from AFGWC, Of futt AFB, Neb.
 Master Sgt. Doug Rishel—to 51st OSS/OSW, Osan AB, Korea, from HQ AWS, Scott AFB, Ill.
 2nd Lt. Michael W. Holmes—to HQ AMC TACC/XOW, Scott AFB, Ill., from Keesler AFB, Miss.
 Airman 1st Class Brenda K. Graves—to 8th OSS/OSW, Kunsan AB, Korea, from 27th OSS/OSW, Cannon AFB, N.M.
 Capt. Roy Merritt—to OL-B, 18th WS, Fort Eustis, Va., from Langley AFB, Va.
 Tech. Sgt. Kyle Jeter—to OL-B, 18th WS, Fort Eustis, Va., from Keesler AFB, Miss.
 Staff Sgt. John Weber—to OL-B, 18th WS, Fort Eustis, Va., from Hanau AIN, Germany
 Senior Airman Jeremiah Story—to OL-B, 18th WS, Fort Eustis, Va., from Keesler AFB, Miss.
 Senior Airman Shawn P. Peno—to 18th WS, Fort Bragg, N.C., from Germany
 Airman Scott Kormanyos—to OL-C, 18th WS, Fort Knox, Ky., from Keesler AFB, Miss.
 Airman Daniel Clark—to 6th WF, 18th WS, Fort Rucker, Ala., from Keesler AFB, Miss.
 Staff Sgt. Mark W. Adams—to Korea, from OL-C, 18th WS, Fort Knox, Ky.
 Senior Airman Paul W. Walker, Jr.—to Keesler AFB, Miss., from OL-C, 18th WS, Fort Knox, Ky.
 Airman 1st Class Outhong Preaseuth-Gwilt—to Camp Humphreys, Korea, from 6th WF, 18th WS, Fort Rucker, Ala.
 Airman Patrick Gray—to 45th WS, Patrick AFB, Fla., from Keesler AFB, Miss.
 Senior Airman James Heinrich—to 45th WS, Patrick AFB, Fla., from Keesler AFB, Miss.
 Airman 1st Class William Ferguson—to Fort Benning, Ga., from 45th WS, Patrick AFB, Fla.
 Senior Airman Arnold T. Perez—to 16th OSS/DOW, Hurlburt Field, Fla., from Keesler AFB, Miss.
 Airman 1st Class Matthew T. Jones—to 16th OSS/DOW, Hurlburt Field, Fla., from Keesler AFB, Miss.
 Airman Estehpany D. Allen—to 16th OSS/DOW, Hurlburt Field, Fla., from Keesler AFB, Miss.
 Senior Airman Larry Shely—to 7th WS, Heidelberg, Germany, from Keesler AFB, Miss.
 Staff Sgt. Thomas R. Wenger—to Det. 7, 7th WS, Grafenwoehr, Germany, from Osan AB, Korea
 Tech. Sgt. Clark W. Lind—to Det. 7, 7th WS, Grafenwoehr, Germany, from Vandenberg AFB, Calif.
 Staff Sgt. Darin G. Robinson—to Davis-Monthan AFB, Ariz., from Det. 7, 7th WS, Grafenwoehr, Germany
 Airman 1st Class Eric Withrow—to Det. 7, 7th WS, Grafenwoehr, Germany, from Fort Hood, Texas
 Airman 1st Class Michele Fellabaum—to Camp Stanton, Korea, from 375th OSS/OSW, Scott AFB, Ill.
 Senior Airman Pedro Gonzalez—to Camp Stanley, Korea, from 375th OSS/OSW, Scott AFB, Ill.
 Airman 1st Class Valerie Slinkowski—to 375th OSS/OSW, Scott AFB, Ill., from Keesler AFB, Miss.

REENLISTMENTS

Master Sgt. Doug Rishel, 51st OSS/OSW, Osan AB, Korea
 Senior Airman Preston Gibson, 51st OSS/OSW, Osan AB, Korea
 Senior Airman Jeremiah W. Thunberg, 51st OSS/OSW, Osan AB, Korea
 Senior Master Sgt. Ronald C. Mueller, OL-C, 18th WS, Fort Knox, Ky.
 Staff Sgt. David K. Wilson, OL-A, 18th WS, Fort Belvoir, Va.
 Staff Sgt. James Morello, 88th WS, Wright-Patterson AFB, Ohio

RETIREMENTS

Master Sgt. Ray Reynolds, 334th TRS/TTMVD, Keesler AFB, Miss.
 Lt. Col. Edward M. Powers, 131st WF, Westfield, Mass. (ANG)
 Master Sgt. Robert S. Rowling, 110th WF, St. Louis, Mo. (ANG)
 Staff Sgt. Denise Salgot, HQ AFGWC, Of futt AFB, Neb.
 Master Sgt. Franklin E. Henry, HQ AMC TACC/XOW, Scott AFB, Ill.
 Master Sgt. Randy Metz, 2nd OSS/OSW, Barksdale AFB, Ala.

SEPARATIONS

Staff Sgt. Richard W. Willard, OL-A, 18th WS, Fort Belvoir, Va.
 Sgt. Rhonda Pauly, 305th OSS/OSW, McGuire AFB, N.J.

EDUCATION

WSR-88D Operator/Manager Course

Airman 1st Class Shawn T. Koch, 314th OSS/OSW, Little Rock AFB, Ark.
 2nd Lt. Gerald Sullivan, 305th OSS/OSW, McGuire AFB, N.J.

NEXRAD PUP Operator/Manager Course

Tech. Sgt. Katherine A. Zupan, OL-A, 18th WS, Fort Belvoir, Va.
 Staff Sgt. Rodney D. Jones, OL-A, 18th WS, Fort Belvoir, Va.
 Senior Airman Kyle Sutherland, 375th OSS/OSW, Scott AFB, Ill.
 Capt. Lisa Swartz, 375th OSS/OSW, Scott AFB, Ill.

AWDS Systems Manager Course

Staff Sgt. Paul T. Richard, Jr., Det. 7, 7th WS, Grafenwoehr, Germany
 2nd Lt. Joseph Schwarz, 305th OSS/OSW, McGuire AFB, N.J.

Advanced Weather and Able Forecaster Course graduates (Class 960820)

Airman 1st Class Nicholas S. Barnhardt—to Camp Blanding, Fla.
 Senior Airman James A. Heinrich—to Patrick AFB, Fla.
 Senior Airman Jason D. Miller—to Fort Hood, Texas
 Tech. Sgt. Yasin A. Muhammad—to Fort Lewis, Wash.
 Senior Airman Simon Perry—to Fort Lewis, Wash.
 Senior Airman Aaron M. Purdum—to Hill AFB, Utah
 Senior Airman Derek M. Quinn—to Ellsworth AFB, S.D.
 Senior Airman Joseph A. Turner III—to Robins AFB, Ga.
 Staff Sgt. Terry Upchurch—to Camp Blanding, Fla. (Distinguished Graduate)

Advanced Weather and Able Forecaster Course graduates (Class 960905)

Senior Airman Jeffrey J. Chaney—to Columbus AFB, Miss.
 Senior Airman David Correa—to Cannon AFB, N.M.
 Senior Airman Phillip N. Hardin—to Fort Polk, La. (Distinguished Graduate)
 Senior Airman Timothy B. Receiver—to Fort Eustis, Va. (Distinguished Graduate)
 Senior Airman Timothy C. Williams—to Ellsworth AFB, S.D.

Weather Apprentice Course (Class 960916)

Staff Sgt. April Rousch (Distinguished Graduate)(100% Average)
 Meteorologist 1st Class Douglas Craft (U.S. Navy)(Distinguished Graduate)

Senior Airman Rhonda Roberts

Senior Airman Mario Lovato

Airman Regan Leighton

Airman Earl Hernandez

Airman Jason Dobbins

NCO Academy

Tech. Sgt. Jeffrey Wepner, HQ AFGWC, Of futt AFB, Neb. (Distinguished Graduate)
 Tech. Sgt. Ralph D. Getzandanner, HQ AFGWC, Of futt AFB, Neb. (Distinguished Graduate)

Airman Leadership School

Senior Airman Alicia A. Garza, HQ AFGWC, Of futt AFB, Neb. (Levitov Award)
 Senior Airman Michelle L. Haney, HQ AFGWC, Of futt AFB, Neb. (Distinguished Graduate)
 Senior Airman Kyle E. Sutherland, 375th OSS/OSW, Scott AFB, Ill. (Levitov Award)(Academic Achievement Award)
 Senior Airman Glenn A. DeMars, 88th WS, Wright-Patterson AFB, Ohio (Commandant's Award)

Army Airborne School

Senior Airman Jeremiah W. Thunberg, 51st OSS/OSW, Osan AB, Korea

METSAT Interpretation Course

Tech. Sgt. Scott A. Straw, HQ AMC TACC/XOW, Scott AFB, Ill.

Electro-Optical Tactical Decision Aid Course

Tech. Sgt. Jeff Rosbach, 51st OSS/OSW, Osan AB, Korea
 1st Lt. Neil Sanger, 51st OSS/OSW, Osan AB, Korea

Weather Journeyman EOC

Airman 1st Class Angela Gregoire, 27th OSS/OSW, Cannon AFB, N.M.
 Airman 1st Class Rachel Ramos, 27th OSS/OSW, Cannon AFB, N.M.

Senior Airman Paul B. Krewson, OL-C, 18th WS, Fort Knox, Ky.

Senior Airman James R. Norton, OL-C, 18th WS, Fort Knox, Ky.

Doctorate of Education in Occupational Training and Development

Senior Master Sgt. Ronald C. Mueller, OL-C, 18th WS, Fort Knox, Ky. (from University of Louisville)

Squadron Officer School

Capt. "Chip" Parker, HQ AWS/XORT, Scott AFB, Ill. (Class 96-E)

See SALUTES,
 continued on Page 22

This graphic file from a NASA web site shows three tropical storms and one typhoon in one satellite image in 1995. Clockwise from top right: SuperTyphoon Oscar is southeast of Japan, Tropical Storm Polly is east of the Philippines (south of Oscar), Tropical Storm Ryan is over the South China Sea, and Tropical Cyclone 01B is over the Bay of Bengal (left). Polly became a typhoon Sept. 18. Ryan became a typhoon Sept. 19, and a Supertyphoon (130 knots) Sept. 21. This satellite images shows Ryan passing close to Taiwan Sept. 22.

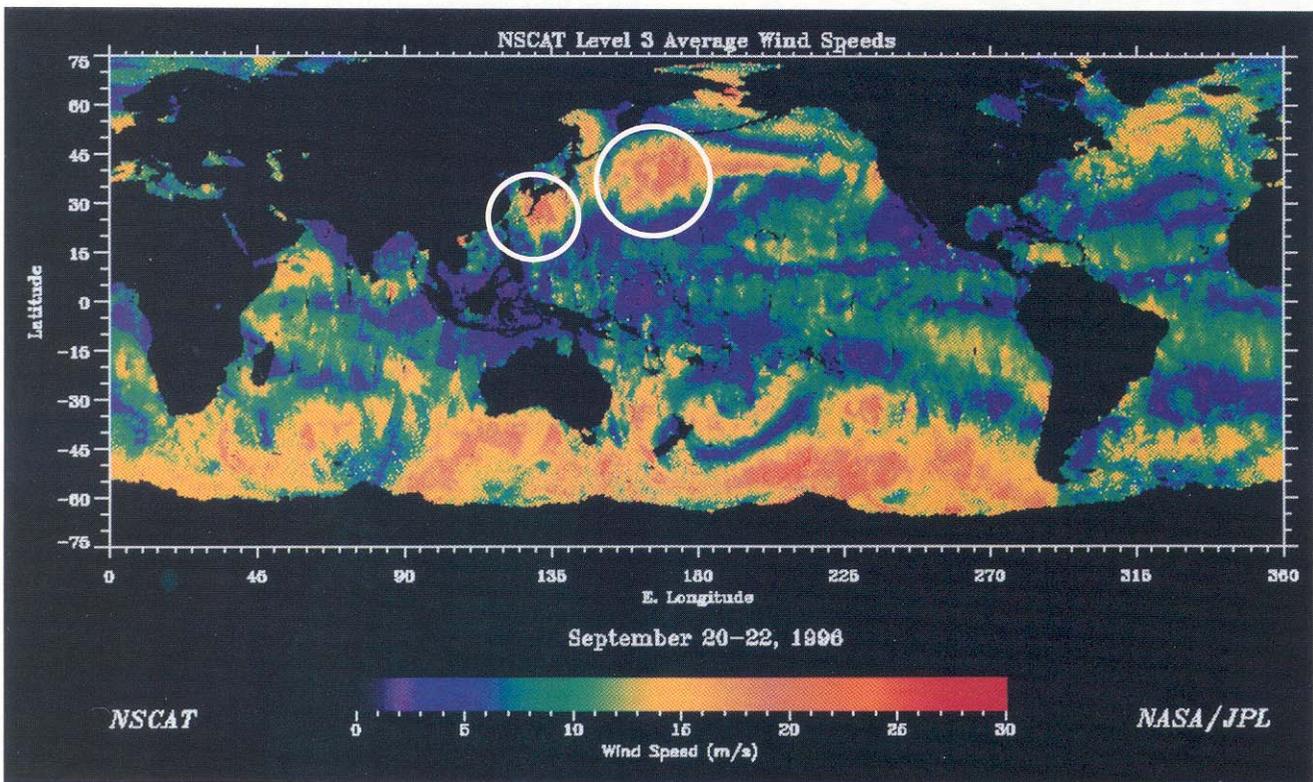
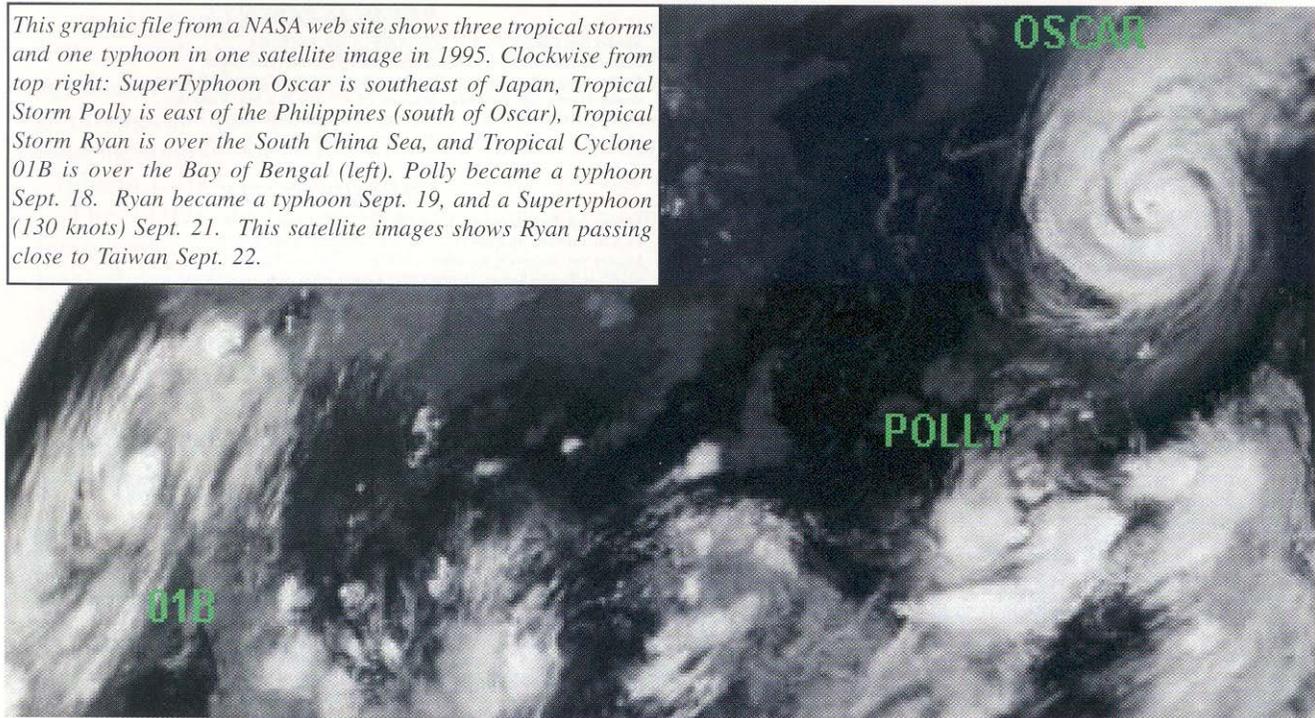


Image courtesy of the NASA Jet Propulsion Laboratory's Public Information Office

This map shows a global three day average of wind speeds over the world's oceans, as measured by the NASA Scatterometer (NSCAT) aboard Japan's Advanced Earth Observing Satellite, from Sept. 20-22, 1996.

The color indicates wind speed, with purple and blue being low winds, green to yellow as moderate winds, and orange to red as

high winds. Typhoons Violet and Tom (circled here for clarity) are shown as yellow-orange spirals near Japan. NSCAT wind measurements cover 90 percent of the ocean surface each day, achieving nearly 100 percent coverage within three days. NSCAT provides continuous measurements of ocean wind speeds from space.

The Joint Typhoon Warning Center

Guam is located in the most active typhoon-producing region in the world.

This makes it a convenient location for the Joint Typhoon Warning Center (JTWC) to conduct its business.

The center is an Air Force/Navy operation founded May 1, 1959 when the Commander in Chief, U.S. Pacific Command, directed the establishment of a single tropical cyclone warning center. The JTWC is part of the Naval Pacific Meteorology and Oceanography Center West (NPMOC West), commanded by a Navy Captain. The JTWC director is an Air Force lieutenant colonel, with all Air Force personnel assigned to the 36 Operations Support Squadron.

The JTWC is at Nimitz Hill, where the Air Force personnel assist in forecasting, detecting and tracking tropical weather phenomena ranging from tropical disturbances to typhoons (also called hurricanes or tropical cyclones)..

The center's area of responsibility (AOR) is staggering, covering more than 40 percent of the Earth's surface. JTWC's mission includes monitoring tropical weather activity in the AOR covering both the north-

ern and southern hemispheres from along the east coast of Africa, roughly 30 degrees longitude east, and eastward to 180 degrees longitude east.

The center issues the appropriate advisories, alerts and warnings. It's always busy, since 71 percent of the world's tropical storms and typhoons develop in this vast area. The northwest Pacific Ocean alone produces 33 percent of the world's typhoons. This is somewhat more than the 29 percent that National Weather Service handles in the Atlantic and Pacific oceans around North America.

The JTWC's job doesn't end when our typhoon season slows down during the northern hemispheric winter. That's when the southern hemisphere is cooking up tropical cyclones during its summer season. The JTWC issued warnings on 60 tropical cyclones in 1995: four in the northern Indian Ocean, 22 in the southern hemisphere, and 34 in the northwest Pacific. To put this in perspective, the United States had one of its busiest tropical seasons last year, with 19 tropical cyclones.

The JTWC is operated by seven Air Force officers (including the director), 12 NCOs and airmen, five Navy officers, and four Navy enlisted Aerographer Mates.

**by Capt. Richard Anstett
36th Operations Support
Squadron
Typhoon Duty Officer**

The Air Force and Navy Officers hold master's degrees in meteorology and/or oceanography, and must go through an intensive three-month training program for certification as Typhoon Duty Officers (TDOs).

The TDOs are responsible for forecasting and issuing warnings on tropical depressions, tropical storms and typhoons, and coordinating with DoD assets such as military bases and Navy vessels in the JTWC's area of responsibility.

The Air Force NCOs are all graduates of the six-month-long Air Force Forecaster School, and work in the Satellite Operations section (Sat Ops). They interpret satellite imagery to provide tropical cyclone positions and estimates of current intensity.

The JTWC also depends on the Sat Ops section to coordinate the Defense Meteorological Satellite Program (DMSP) Tropical Cyclone Reporting Network. The network in-

cludes weather units at Kadena AB, Japan; Osan AB, Korea; Hickam AFB, Hawaii; and the Air Force Global Weather Center (AFGWC) at Offutt AFB, Neb.

The network also relies on U.S. non-military polar orbiting satellite data, observations from the Naval Pacific Meteorology and Oceanography Detachment at Diego Garcia in the Indian Ocean, and Navy ships equipped for direct satellite readout. Both AFGWC and Naval sources are

What's a hurricane, typhoon, or tropical cyclone?

The terms "hurricane" and "typhoon" are regionally specific names for a strong "tropical cyclone." A tropical cyclone is the generic term for a non-frontal synoptic scale low-pressure system over tropical or sub-tropical waters with organized convection (i.e. thunderstorm activity) and definite cyclonic surface wind circulation (Holand 1993).

Tropical cyclones with maximum sustained surface winds of less than 17 m/s (34 knots) are called "tropical depressions." Once the tropical cyclone reaches winds of at least 17 m/s they are typically called a "tropical storm" and assigned a name.

If winds reach 33 m/s (64 kt), then they are called:

- a "hurricane" (the North Atlantic Ocean, the Northeast Pacific Ocean east of the dateline, or the South Pacific Ocean east of 160 degrees East);
- a "typhoon" (the Northwest Pacific Ocean west of the dateline);
- a "severe tropical cyclone" (the Southwest Pacific Ocean west of 160E or Southeast Indian Ocean east of 90E);
- a "severe cyclonic storm" (the North Indian Ocean); and
- a "tropical cyclone" (the Southwest Indian Ocean)

(Neumann 1993).

Note that just the definition of "maximum sustained surface winds" depends upon who is taking the measurements. The World Meteorology Organization guidelines suggest utilizing a 10 min average to get a sustained measurement. Most countries utilize this as the standard.

However, the National Hurricane Center (NHC) and the Joint Typhoon Warning Center (JTWC) use a one-minute averaging period to get sustained winds. This difference may provide complications in comparing the statistics from one basin to another as using a smaller averaging period may slightly raise the number of occurrences (Neumann 1993).

Why are tropical cyclones named?

Tropical cyclones are named to provide ease of communication between forecasters and the general public regarding forecasts, watches, and warnings. Since the storms can often last a week or longer and more than one can occur in the same basin at the same time, giving the storms a "name" reduces the confusion about which storm is being described.

According to Dunn and Miller (1960), the first use of a proper name for a tropical cyclone was by an Australian forecaster early in this century. He gave tropical cyclone names "after po-

TYPHOON FACTS

litical figures whom he disliked. By properly naming a hurricane, the weatherman could publicly describe a politician (who perhaps was not too generous with weather-bureau appropriations) as 'causing great distress' or 'wandering aimlessly about the Pacific.'

During World War II, tropical cyclones were informally given women's names by U.S. Army Air Force and Navy meteorologists (after their girlfriends or wives) who were monitoring and forecasting tropical cyclones over the Pacific.

From 1950 to 1952, tropical cyclones of the North Atlantic Ocean were identified by the phonetic alphabet (Able-Baker-Charlie-etc.), but in 1953 the U.S. Weather Bureau switched to women's names. In 1979, the WMO and the National Weather Service (NWS) switched to a list of names that also included men's names.

The Northeast Pacific basin tropical cyclones were named using women's names starting in 1959 for storms near Hawaii and in 1960 for the remainder of the Northeast Pacific basin. In 1978, both men's and women's names were utilized.

The Northwest Pacific basin tropi-

crucial to tracking and forecasting tropical cyclones in the western Indian Ocean. That area is more difficult to monitor, since it's almost a third of the way around the earth away from Guam.

The airmen and aerographer's mates are the Typhoon Duty Assistants (TDAs). They are responsible for the staggering task of gathering and hand-plotting surface weather data and weather balloon data spanning the western Pacific and Indian

oceans and the countries bordering these oceans.

The TDAs obtain data through routine communications channels and by extensive use of the Milnet (NIPRNET) and Internet.

The TDOs analyze the plot charts to identify tropical weather activity, and use the raw data to track tropical cyclone passages near reporting stations.

The TDAs also handle all of the center's outgoing messages, a sizable

task during the busy northwest Pacific Typhoon season.

The JTWC's customers include State Department embassies, U.S. Naval forces, military aircraft, joint forces exercises, DoD installations, and also many other U.S. government agencies.

The JTWC is a great success story in Air Force and Navy cooperation, showing the power of joint operations.

cal cyclones were given women's names officially starting in 1945 and men's names were also included beginning in 1979.

The North Indian Ocean region tropical cyclones are not named. The Southwest Indian Ocean tropical cyclones were first named during the 1960/1961 season. The Australian and South Pacific region (east of 90E, south of the equator) started giving women's names to the storms in 1964 and both men's and women's names in 1974/1975.

How are tropical cyclones different from mid-latitude storms?

The tropical cyclone is a low-pressure system which derives its energy primarily from evaporation from the sea in the presence of high winds and lowered surface pressure, and the associated condensation in convective clouds concentrated near its center (Holland 1993).

Mid-latitude storms (low pressure systems with associated cold fronts, warm fronts, and occluded fronts) primarily get their energy from the horizontal temperature gradients that exist in the atmosphere.

Structurally, tropical cyclones have their strongest winds near the earth's surface (a consequence of being "warm-core" in the troposphere), while mid-latitude storms have their strongest

winds near the tropopause (a consequence of being "warm-core" in the stratosphere and "cold-core" in the troposphere). "Warm-core" refers to being relatively warmer than the environment at the same pressure surface.

How are tropical cyclones different from tornadoes?

While both tropical cyclones and tornadoes are atmospheric vortices, they have little in common. Tornadoes have diameters on the scale of hundreds of meters and are produced from a single convective storm (i.e. a thunderstorm or cumulonimbus).

A tropical cyclone, however, has a diameter on the scale of hundreds of kilometers and is comprised of several to dozens of convective storms. Additionally, while tornadoes require substantial vertical shear of the horizontal winds (i.e. change of wind speed and/or direction with height) to provide ideal conditions for tornado genesis, tropical cyclones require very low values (less than 10 m/s or 20 kt) of tropospheric vertical shear in order to form and grow.

These vertical shear values are indicative of the horizontal temperature fields for each phenomena: tornadoes are produced in regions of large temperature gradient, while tropical cyclones are generated in regions of near zero horizontal temperature gradient.

Tornadoes are primarily an over-land phenomena as solar heating of the land surface usually contributes toward the development of the thunderstorm that spawns the vortex (though over-water tornadoes have occurred).

In contrast, tropical cyclones are purely an oceanic phenomena - they die out over land due to a loss of a moisture source. Lastly, tropical cyclones have a lifetime measured in days, while tornadoes typically last minutes.

An interesting side note is that tropical cyclones at landfall often provide the conditions necessary for tornado formation. As the tropical cyclone makes landfall and begins decaying, the winds at the surface die off quicker than the winds at 850 mb. This sets up a fairly strong vertical wind shear that allows for the development of tornadoes, especially on the tropical cyclone's right side (with respect to the forward motion of the tropical cyclone).

For the southern hemisphere, this would be a concern on the tropical cyclone's left side - due to the reverse spin of southern hemisphere storms. (Novlan and Gray 1974).

Information in "Typhoon Facts" portion of this article was found on the University of Michigan Department of Atmospheric, Oceanic and Space Science's "The Weather Underground" web site. The Uniform Resource Locator (URL) address for this page is:

"groundhog.sprl.umich.edu"



Lightning Strike Spurs Action

Safety Panel Reviews Wording of AFOSH Standard

A lightning strike that killed one airman and injured 10 others at Hurlburt Field, Fla., has spurred the Air Force to review its procedures concerning operations likely to be affected by lightning.

Air Force Chief of Staff Gen. Ronald R. Fogleman requested the review as a result of the Class A, or fatal, mishap at Hurlburt Field April 20, 1996.

A 25-year-old AC-130H Spectre gunship crew chief, Airman 1st Class John Vincent, was killed when lightning struck the aircraft while he and the others were practicing changing tires on the aircraft. Vincent was positioned inside the wheel well of the AC-130H at the time of the lightning strike.

At 8:02 a.m. April 20 at Hurlburt, the 16th OSS/OSW weather flight issued a "lightning within three" advisory when observers spotted a single lightning strike about three miles west of the base, according to 16th Special Operations Wing spokesman Capt. John Paridis. A subsequent strike was reported about three miles to the southwest. The maintenance crew went inside as required.

Under Air Force regulations, base weather stations must issue advisories when thunderstorms and lightning are within five miles of an installation. Because the flight line is an open area with aircraft and equipment that could attract lightning, maintenance personnel must take cover when electrical storms are within three miles.

Normally, an "all clear" is given when there are no further lightning strikes within 30 minutes, Paridis said. But this time, the flight waited nearly 90 minutes before giving an "all clear" at 9:30 a.m.

At the time of the fatal strike, the skies were mostly cloudy with occasional light drizzle and isolated rain showers, Paridis said. Thunderstorms were ob-

by Maj. William H. Bauman III
Product Improvement Branch
HQ AWS/XOXT

served seven to 10 miles north of the airfield. Radar showed that thunderstorms near Pensacola were moving to the east.

"The weather flight was particularly cautious not to lift the observed lightning advisory until they were convinced that they had not missed any lightning that may have occurred or that lightning-inducing storms might soon move to within three nautical miles," Paridis said.

Florida is notorious for lightning strikes, 19th SOW officials said. It has more each year than any other state, and last year 12 people were injured by lightning strikes in Okaloosa County alone, according to National Weather Service statistics. Hurlburt Field is in that county.

An Air Force Lightning Safety Review Panel, made up of functional managers for the respective directives and subject matter experts, convened at the Air Force Safety Center, Kirtland AFB, N.M., from July 9-11 to review the standards and procedures.

The panel focused on Air Force Occupational Safety and Health (AFOSH) Standard 127-100, Aircraft Flight Line-Ground Operations and Activities. Specifically, the panel discussed and debated paragraph 1-4n., Adverse Weather Conditions. This is the overriding guidance upon which all other regulations and manuals regarding thunderstorm and lightning advisories.

According to AFOSH Standard 127-100, paragraph 1-4n:

"The weather officer will advise when thunderstorms and lightning are within a radius of 5 miles of the installation. All aircraft fuel servicing and fuel service maintenance activities (including liquid oxygen (LOX) servicing) will cease

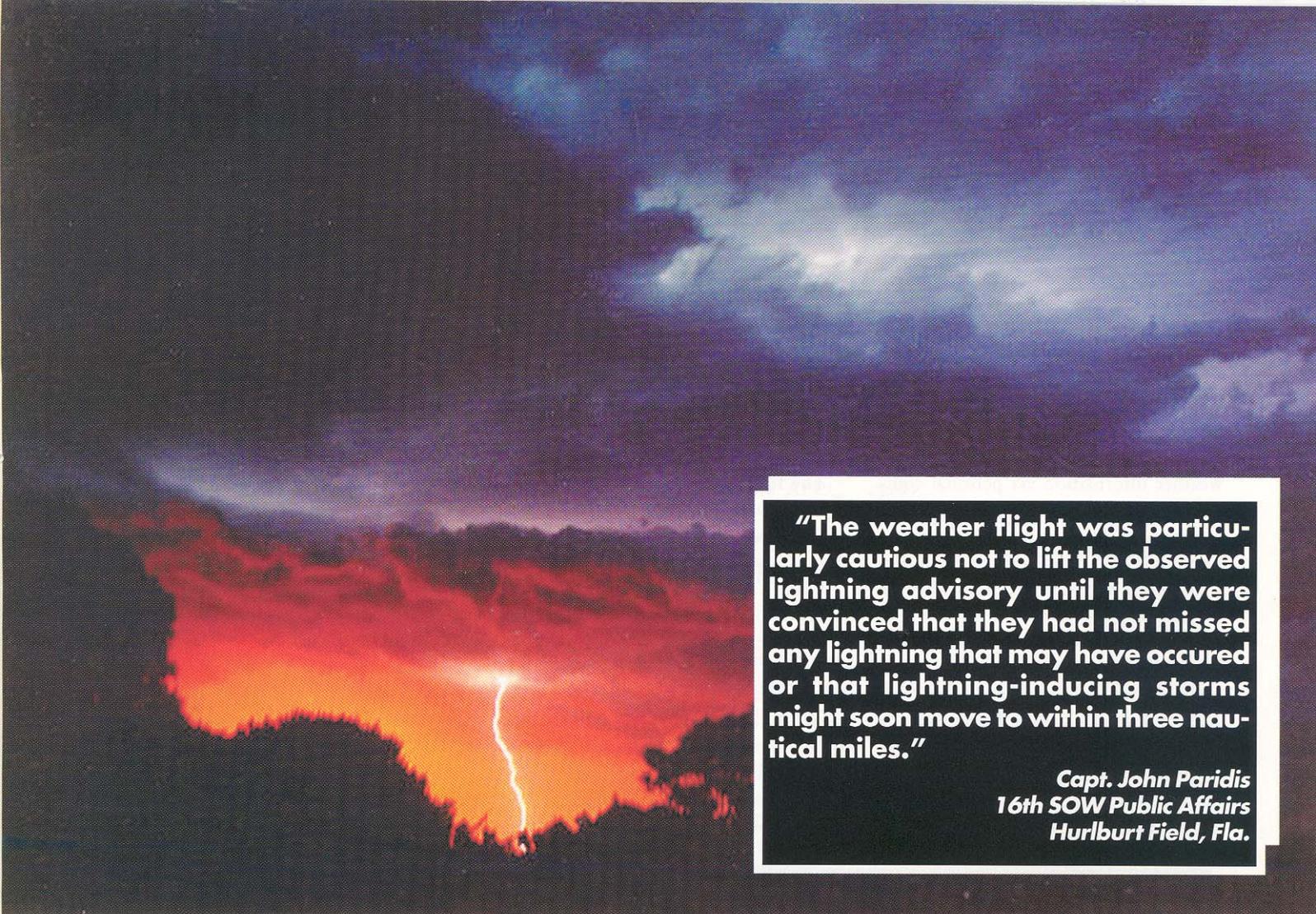
when an electrical storm is within a three-mile radius of the installation and will not resume until the storm passes beyond the three-mile limit. Since the flight line is an open area with aircraft, elevated light standards, and other facilities that could be struck by lightning, all aircraft maintenance activities and use of headsets will be curtailed until the threat of lightning strikes is over and the storm has passed beyond the three-mile limit."

The panel determined this paragraph confused both flightline and weather personnel, because of vague terminology and a lack of clearly defined responsibilities. For example, an "electrical storm" has no actual meteorological meaning, the radius is in neither statute nor nautical miles (nm), the radius center point location is not defined, no one is responsible for issuing a notification when lightning is occurring within 3 miles, and flightline personnel only have to "curtail" -- not cease -- operations when lightning is occurring within three miles.

The panel is currently coordinating new wording for this portion of the AFOSH standard with all the major commands. What is proposed is a two-phased notification process. The first phase is implemented 30 minutes before a thunderstorm is within 5 nautical miles (nm) of any predetermined location of activity being protected by the base weather station (BWS). This phase would accomplish the following:

- Allow operations or activities to continue, but alert personnel to be prepared to implement Phase II procedures without delay.

- Heighten attention for observed lightning activity, to include thunder, and direct personnel to advise supervisors of any lightning-related observations.



"The weather flight was particularly cautious not to lift the observed lightning advisory until they were convinced that they had not missed any lightning that may have occurred or that lightning-inducing storms might soon move to within three nautical miles."

**Capt. John Paridis
16th SOW Public Affairs
Hurlburt Field, Fla.**

The second phase will take effect whenever any lightning is occurring within 5 nm of BWS-protected locations and activities. During the second phase, personnel in affected locations or engaged in affected activities will:

■ Cease all outside activity and seek shelter. The usual lightning safety rules apply — stay away from tall structures or trees and avoid contact with conductive materials.

If a thunderstorm does not occur within 5 nm at the valid (forecast) time of the first phase, the BWS will reassess the situation and amend as needed. The first phase will not be canceled if there is potential for more thunderstorms within 30 minutes. The second phase will be canceled when lightning is no longer occurring within 5 nm of the location or activity.

These changes are intended to:

(1) Provide a "heads up" of lightning potential by the BWS issuing a forecast for thunderstorms (not light-

ning) within 30 minutes of occurrence and by associating specific actions with the first phase and,

(2) Change two separate "observed lightning" distances of 5 miles and 3 miles from an indeterminate location (the installation) to one distance of 5 nautical miles from a predetermined coordinated location and clearly identifying specific actions in the second phase.

Since the panel's findings, Headquarters Air Weather Service (AWS) formed a Lightning Integrated Product Team (IPT) to address other issues identified by the Air Force Lightning Safety Review Panel.

First, AWS surveyed all weather units worldwide to determine what lightning detection systems or services each base uses. Second, the Air Force Combat Climatology Center conducted a worldwide thunder-day and thunder-hour analysis to assess the lightning threat at each base.

The IPT used this data to recommend a plan to quickly field commercial off-the-shelf lightning detection data

services to those BWS's that currently have no lightning strike data.

The AWS Lightning IPT has also received information on costs and availability of commercial off-the-shelf lightning detection systems and has recommended a short-term solution for fixed and tactical lightning detection systems.

For long-term lightning detection and lightning forecasting capabilities, AWS is working with Phillips Lab Geophysics Directorate to bring a NEXRAD lightning forecast algorithm into operation and with the Air Force Institute of Technology graduate meteorology program to study lightning horizontal strike distances.

AWS has also incorporated new requirements for lightning detection systems into the planning for future automated weather observing systems.

(Editor's Note: Portions of this article were taken from an article by Andrew Compart which appeared in the May 6, 1996, edition of Air Force Times.)

AWDS Product Viewer

Easy Access To Weather Information On Your PC



A new weather home page capability will soon be hitting the Internet. This capability, called the Automated Weather Distribution System (AWDS) Product Viewer, allows authorized users easy access to weather information via personal computers.

The users' PC must have base local area network (LAN) or other Internet connectivity along with the necessary software for accessing the Internet (i.e., Trumpet Winsock and Mosaic or Netscape web browsers). Each base weather station controls who is authorized access to their AWDS Product Viewer home page by entering network Internet protocol (IP) addresses or by assigning user names and passwords to authorized users.

The home page offers three choices - "General Interest Weather Information,"

**by 1st Lt. Jahna Schadt
HQ AWS/SYDF
Base Weather Systems Branch**

"Flight Weather Information," and "Information for the Meteorologist."

The first section is intended for use by people who just want general weather information, such as the current local observation and base forecast.

Pilots can use the "Flight Weather Information" section to easily obtain current weather information for flight planning purposes. However, the AWDS Product Viewer is not intended as a self-briefing capability. Pilots should still contact their local weather stations for a pre-flight weather briefing.

The last section, "Information for the Meteorologist," is intended to allow weather personnel access to the

full range of weather products in their local AWDS database.

In addition to AWDS products, there is also a link to the Air Force Weather Information Network (AFWIN) home page at AFGWC.

The AWDS Product Viewer also allows users to view and save AWDS and AFWIN products in common formats (graphics in .GIF or .TIF format, alphanumeric in text format). These products can then be incorporated into other applications. For example, weather personnel can use these products in building their weather briefings by loading these products into an application such as Microsoft Power Point.

The AWDS Product Viewer provides a basic home page capability. Weather station personnel can expand this capability by tailoring the Hyper Text Markup Language (HTML) pages to meet their unique requirements. Home page modifications are easy, using normal word processing applications such as Windows Notepad.

In order to take advantage of this new capability, the AWDS Meteorological Processor (MP) must have connectivity to the base LAN. This is the same LAN connection that should have been installed in conjunction with AWDS release 3.2.0.

As only half of all AWDS locations currently have this connectivity, only those sites will receive the AWDS Product Viewer over the next months. The AWDS System Manager at those sites will assist GTE in accomplishing remote installation of the new software (installations should take less than one hour). Remaining AWDS locations will receive the AWDS Product Viewer in conjunction with AWDS release 3.3.0 installations, starting in May 1997.

For more information regarding the AWDS Product Viewer, call DSN 576-3268, ext. 308, or E-mail "schadtj@hqaws.safb.af.mil".



A surface pressure chart as seen on the AWDS Product Viewer.

Understanding Quality

Providing Our Customers The Best Weather Product

Understanding the whole "Quality" concept can be a daunting task for even the hardest of individuals. New words, definitions, language and acronyms can cast a cloud over the effectiveness of instituting Quality Air Force initiatives.

If you're concerned about this -- as you should be -- then a ride on the "Quality Train" is for you! All aboard!

In 1992, the U.S. Air Force adopted the Malcolm Baldrige methods for achieving excellence and success as its tool for measuring unit effectiveness and customer satisfaction. We all know it as the Quality Air Force (QAF) Criteria. Most of us have had some training on the quality methods used and are probably most familiar with the Quality Air Force Assessment (QAFA) part of the process ... simply because it's our report card, so to speak.

The real questions to ask are "Do I really know what the quality methods are?" and "Do I use them properly and effectively?" We'll see!

Here's a test. Look over these frequently used quality terms. There's no passing score, but you get an "A" if you took the time to look the terms over and use them to increase your awareness of the quality process.

What is the Air Force's definition of Quality?

"Consistently meeting or exceeding customer expectations."

Who is your Customer?

A customer is "anyone who receives goods or services from an organization." We usually think of this person as someone outside of our organization. Remember "anyone who receives." In es-

by Joel K. Banks
Air Weather Service
Quality Office

sence, anyone (including co-workers) you provide information or services to is a "customer."

What is a Process?

Defined: "A set of interrelated work activities that are characterized by a set of specific inputs and value-added tasks that produce a set of specific outputs."

Simply said, the process is those specific steps (activities) we take to get the desired results. One important part of the "process" is continuous process improvement. This means reducing variation and using statistical methods (metrics) to gauge success.

"The true benefit (of a QAFA) is achieved over a number of years as the unit recognizes that this is not a program or transient activity, but a fundamental change in the way an organization measures progress and achievement."



Joel K. Banks
Air Weather Service Quality Office

What are Metrics?

"Metrics assess the conformance or non-conformance to customer requirements." Within a metric package is a graphic representation of the data that is often referred to as a "quality indicator." Quality indicators allow you to quickly gauge, with data, how well you're meeting customer needs and expectations.

What is Benchmarking?

It simply means: "comparing yourself to the best."

What does a Facilitator do?

As you use the quality methods and

tools, you will work together as teams. A "facilitator" is a valuable tool these teams will use. There is widespread misunderstanding and misuse of this tool. Some think this person sets up meetings, prepares all correspondence, schedules the place, contacts all the players, keeps the minutes, etc., etc.... Not so. Your facilitator is like a coach or advisor, a teacher and motivator -- the person that keeps the team on track and helps smooth over rough edges so the process keeps moving.

What is Empowerment?

"The mutually agreed upon act of placing accountability, authority, and responsibility for processes and products at the lowest level." The extent to which a person is empowered is dependent on their capabilities and the seriousness of the consequences. For "empowerment" to take place, the empower-"er" must be the process owner and must transfer accountability, authority, and responsibility to the empower-"ee" who must agree to accept.

What is a Unit Self Assessment (USA)?

A USA helps a unit measure its operational performance. It helps determine responsiveness to customer needs, expectations, and examines processes used in daily operations.

The true benefit is achieved over a number of years as the unit recognizes that this is not a program or transient activity, but a fundamental change in the way an organization measures progress and achievement.

What is a QAFA?

The QAFA is nothing more than the validation of your own USA by an outside agency. The assessment uses the same QAF criteria as the USA.

Want to know more? We hope you do. See your unit or base quality representative for more information and training.

LEAD Program Offers Airmen Commissioning Opportunity

RANDOLPH AIR FORCE BASE, Texas (AFNS) — The Air Force is looking for a few good airmen to “LEAD” the Air Force into the boundless future.

Phase I of Leaders Encouraging Airmen Development gives wing commanders the authority to nominate highly qualified airmen to attend the U.S. Air Force Academy Preparatory School with the intention of an academy appointment to follow.

The academy reserves 50 seats at the school for deserving airmen who meet the criteria. In 1996, 259 airmen applied and 50 were selected to attend. Seven of the 50 were selected for direct appointments, according to Air Education and Training Command personnel officials.

The application deadline is Jan. 31.

LEAD applicants must meet more stringent requirements for a direct appointment to the academy, according to officials. To be eligible to apply, an airman must be at least 17, but not older than 22 by July 1 of the entering year; be a U.S. citizen or eligible for citizenship; be of high moral character; unmarried and have no legal dependents; and meet specific minimum requirements for pull-ups, sit-ups and the 300-yard shuttle run.

Academically, the applicant must be in the top 40 percent of his or her high school class or have a 2.71 adjusted grade point average if the high school didn't rank students; have a Scholastic Aptitude Test score of 480 verbal and 520 math, or an American College Test score of 21 English, 21 reading, 23 math and 23 science reasoning.

For more information or applications, contact your local education services center. (Courtesy AETC News Service)

OBSERVATIONS FROM THE FIELD



Photo courtesy of Weather Training Flight, Keesler AFB, Miss.

An “all-weather” Honor Guard flight presents arms during funeral ceremonies in honor of retired Maj. Charles L. Sheehan in Biloxi, Miss. Honor Guard members are, from left: Tech. Sgt. Geri Swanson, Airman 1st Class Jane Griffin, Staff Sgt. Garth McCulloch, Staff Sgt. Jay Moffit, Tech. Sgt. Steve Whitehead, Staff Sgt. Larry McCoy, and Master Sgt. Robert Rios.

Weather Training Flight Members Serve On Keesler Honor Guard

by Ed Ring
Weather Training Flight
Keesler AFB, Miss.

It seems most Air Force members end up with at least a few additional duties in their careers. This holds true for the weather personnel and instructors at the Weather Training Flight, Keesler AFB, Miss.

Several flight members have volunteered to participate in the Keesler Honor Guard.

Once selected for the honor guard, volunteers attend a two-week training course. During this training, they learn proper pallbearing techniques, how to fold the U.S. flag, and use and upkeep of the M1 rifle, the ceremonial weapon used by the honor guard.

After the initial qualification period, the members practice once a week and are on standby for funeral and parade details. The Keesler Honor Guard serves a wide area, from east Texas to the Alabama border, and as far north as Jackson, Miss.

“I attended a military funeral and was impressed with the ceremony. That’s when I decided to become a part of the

honor guard,” said Master Sgt. Robert Rios, NCO-in-charge of the honor guard’s enlisted members. Rios supervises the instructors for the school’s Able Forecaster Course. “Being on the honor guard keeps me busy — we average four or five funerals a month.”

Another member of the honor guard considers it an honor to serve.

“It is an honor to have a family member come up after a funeral and say thanks,” said Tech. Sgt. Geri Swanson, an instructor in the Weather Apprentice Course. “This gives me an opportunity to pay respect to Air Force members who have passed away.

“Every funeral is different and you have to be ready for the unexpected,” Swanson said. “I have this fear of dropping the casket or slipping into the grave.”

In addition to funeral duty, the Keesler Honor Guard also provides a color guards at parades and other functions, such as dinings out. A recent funeral at the Biloxi cemetery saw the honor guard made up completely of weather personnel.

Overall, enlisted weather people make up one-third of the Keesler Honor Guard.

Helping The Pilot

New System Uses Weather Data To Help Locate Targets

For many combat aircrews, recognizing targets on cockpit display panels can be a difficult task. The images appearing on the cockpit screen will vary according to the weather surrounding the target below. In some missions, success depends on the pilot's ability to recognize the target on the infrared scene displayed in the cockpit.

Aiming to improve on the effectiveness of these Air Force air-to-ground targeting missions, Phillips Laboratory's Geophysics Directorate (at Hanscom AFB, Mass.) began testing its new Infrared Target Scene Software (IRTSS) in November, using test ranges at Eglin AFB, Fla.

Developed by the directorate's Atmospheric Sciences Division, IRTSS provides aircrews with a simulated preview of what their target will look like on display panels, before they perform an

by Laura Sexton
Phillips Laboratory
Hanscom AFB, Mass.

actual mission. Aircrews will see, beforehand, how their target will appear in different weather and geographical conditions. This software has the potential to greatly increase mission effectiveness by preparing the aircrews in advance of their mission.

Many combat aircraft use infrared sensors to locate targets. The sensors are able to locate targets by detecting temperature differences between a particular target and its surroundings. Based on these temperature differences, the sensors display a picture of the target and its background in the cockpit.

Weather conditions and geographical characteristics can cause temperature changes in both the target and the surrounding objects. Therefore, the picture produced by the sensors will vary according to the weather, angle of the sun, etc. This can make it difficult for aircrews to recognize their target on the cockpit screen. The IRTSS will prepare aircrew members for what their target will look like in these various situations.

See TARGET,
continued on Page 23



(Inset) How a hardened aircraft shelter would look to a fighter pilot using the Infrared Target Scene Software (IRTSS).

SALUTES,

continued from Page 11

AWARDS

Air Force Combat Climatology Center Junior Enlisted of the Quarter (3rd qtr.)
Senior Airman Scott McCormick, AFCCC, Scott AFB, Ill.
AFCCC NCO of the Quarter
Staff Sgt. Lee A. Flowe, AFCCC, Scott AFB, Ill.
AFCCC Senior NCO of the Quarter
Master Sgt. James P. Roy III, AFCCC, Scott AFB, Ill.
AFCCC Company Grade Officer of the Quarter
Capt. Richard J. Mueller, AFCCC, Scott AFB, Ill.
AFCCC Junior Civilian of the Quarter
Rose Pappas, AFCCC, Scott AFB, Ill.
AFCCC Senior Civilian of the Quarter
Harold E. Newman, AFCCC, Scott AFB, Ill.
HQ Air Weather Service NCO of the Quarter
Staff Sgt. Bruce A. Frankford, HQ AWS, Scott AFB, Ill.
HQ AWS Senior NCO of the Quarter
Senior Master Sgt. Donna E. Jackson, HQ AWS, Scott AFB, Ill.
HQ AWS Company Grade Officer of the Quarter
Capt. Joseph F. Piasecki, HQ AWS, Scott AFB, Ill.
HQ AWS Junior Civilian of the Quarter
Angela M. Buhrman, HQ AWS, Scott AFB, Ill.
HQ AWS Senior Civilian of the Quarter
Lyle G. Bryant, HQ AWS, Scott AFB, Ill.
Joint AWS/AFCCC Junior Enlisted of the Quarter
Senior Airman Scott McCormick, AFCCC, Scott AFB, Ill.
Joint AWS/AFCCC NCO of the Quarter
Staff Sgt. Lee A. Flowe, AFCCC, Scott AFB, Ill.
Joint AWS/AFCCC Senior NCO of the Quarter
Senior Master Sgt. Donna E. Jackson, HQ AWS, Scott AFB, Ill.
Joint AWS/AFCCC Company Grade Officer of the Quarter
Capt. Richard J. Mueller, AFCCC, Scott AFB, Ill.
314th OSS/OSW Airman of the Quarter
Senior Airman Gregory M. Bianchi, Jr., 314th OSS/OSW, Little Rock AFB, Ark.
314th OSS/OSW NCO of the Quarter
Staff Sgt. Benjamin R. Touchstone, 314th OSS/OSW, Little Rock AFB, Ark.
314th OSS/OSW Civilian of the Quarter
Fred G. Martin, 314th OSS/OSW, Little Rock AFB, Ark.
314th OSS/OSW Company Grade Officer of the Quarter
2nd Lt. Darryl N. Leon, 314th OSS/OSW, Little Rock AFB, Ark.
314th OSS/OSW Observer Technician of the Quarter
Airman 1st Class Jerrod Webb, 314th OSS/OSW, Little Rock AFB, Ark.
314th OSS/OSW Forecaster Technician of the Quarter
Staff Sgt. William T. Marshall, 314th OSS/OSW, Little Rock AFB, Ark.
4th OSS/OSW NCO of the Quarter
Staff Sgt. Brad Davis, 4th OSS/OSW, Seymour Johnson AFB, S.C.
HQ AMC TACC/XOW NCO of the Quarter
Tech. Sgt. Harold D. Eifert, HQ AMC TACC/XOW, Scott AFB, Ill.
HQ AMC TACC Information Manager of the Quarter
Tech. Sgt. Royce S. Morton, HQ AMC TACC/XOW, Scott AFB, Ill.
27th OSS/OSW Airman of the Quarter
Senior Airman Thomas E. Briggs, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW NCO of the Quarter
Staff Sgt. Deborah A. Northern, 27th OSS/OSW, Cannon AFB, N.M.
27th OSS/OSW Observer of the Quarter
Airman 1st Class Rachel Ramos, 27th OSS/OSW, Cannon AFB, N.M.
18th WS Senior NCO of the Quarter
Master Sgt. Larry W. Smith, OL-B, 18th WS, Fort Eustis, Va.
18th WS NCO of the Quarter
Staff Sgt. Frank P. Accomando, Jr., OL-B, V, Fort Eustis, Va.
18th WS Airman of the Quarter
Senior Airman Paul B. Krewson, OL-C, 18th WS, Fort Knox, Ky.
OL-B, 18th WS Airman of the Quarter
Airman Tawnia L. Miller, OL-B, 18th WS, Fort Eustis, Va.
Dragon Flight NCO of the Quarter
Staff Sgt. Andre D. Williams, 18th WS, Fort Bragg, N.C.

Dragon Flight Airman of the Quarter
Senior Airman Randy G. Sabin, 18th WS, Fort Bragg, N.C.
2nd OSS/OSW Airman of the Month (August)
Airman 1st Class Christopher Denning, 2nd OSS/OSW, Barksdale AFB, Ala.
2nd OSS/OSW NCO of the Quarter
Staff Sgt. Deborah D. Lovelady, 2nd OSS/OSW, Barksdale AFB, Ala.
45th WS Company Grade Officer of the Quarter
1st Lt. Julia Borowiak, 45th WS, Patrick AFB, Fla.
45th WS Senior NCO of the Quarter
Master Sgt. Fred Guerrero, 45th WS, Patrick AFB, Fla.
45th WS NCO of the Quarter
Staff Sgt. Dean Harpster, 45th WS, Patrick AFB, Fla.
45th WS Airman of the Quarter
Airman 1st Class James Brown, 45th WS, Patrick AFB, Fla.
45th WS Civilian of the Quarter
Johnny Weems, 45th WS, Patrick AFB, Fla.
Hurlburt Field Honor Guard Member of the Quarter
Airman 1st Class John M. Carpenter, 16th OSS/DOW, Hurlburt Field, Fla.
334th Training Squadron Company Grade Officer of the Quarter
Capt. Frederick D. Williams, 334th TRS, Keesler AFB, Miss.
334th TRS Civilian of the Quarter
Kerry A. Bartels, 334th TRS, Keesler AFB, Miss.
375th OSS Company Grade Officer of the Quarter
Capt. Lisa Swartz, 375th OSS/OSW, Scott AFB, Ill. (July-Sept. 1996)
Capt. Bridget Davis, 375th OSS/OSW, Scott AFB, Ill. (April-June 1996)
375th OSS Senior NCO of the Quarter (July-Sept. 1996)
Master Sgt. James Lynch, 375th OSS/OSW, Scott AFB, Ill.
375th OSS NCO of the Quarter (April-June 1996)
Staff Sgt. Ken LaForest, 375th OSS/OSW, Scott AFB, Ill.
375th OSS Airman of the Quarter (July-Sept. 1996)
Senior Airman Pedro Gonzales, 375th OSS/OSW, Scott AFB, Ill.
88th Logistics and Operations Group Senior NCO of the Quarter
Master Sgt. Phillip A. Rosenberry, 88th WS, Wright-Patterson AFB, Ohio
88th WS Airman of the Quarter
Airman 1st Class Shawn Crabeels, 88th WS, Wright-Patterson AFB, Ohio
88th WS NCO of the Quarter
Staff Sgt. Paul Hamilton, 88th WS, Wright-Patterson AFB, Ohio
88th WS Company Grade Officer of the Quarter
Capt. Jean Polander, 88th WS, Wright-Patterson AFB, Ohio
305th OSS/OSW Junior Officer of the Quarter
2nd Lt. Joseph Schwarz, 305th OSS/OSW, McGuire AFB, N.J.
305th OSS/OSW Forecaster of the Quarter
Staff Sgt. Mitchell French, 305th OSS/OSW, McGuire AFB, N.J.
305th OSS Airman of the Quarter
Airman 1st Class Loling Brown, 305th OSS/OSW, McGuire AFB, N.J.
305th OSS/OSW Observer of the Quarter
Senior Airman Rafael Pavwoski, 305th OSS/OSW, McGuire AFB, N.J.
92nd OSS/OSW Company Grade Officer of the Quarter
2nd Lt. Scott Emert, 92nd OSS/OSW, Fairchild AFB, Wash.
92nd OG/92nd OSS/OSW NCO of the Quarter
Master Sgt. Gerry C. Claycomb, 92nd OSS/OSW, Fairchild AFB, Wash.
92nd OG Civilian of the Quarter
Mike Fietek, 92nd OSS/OSW, Fairchild AFB, Wash.
92nd OSS/OSW NCO of the Quarter
Staff Sgt. Ray Courtney, 92nd OSS/OSW, Fairchild AFB, Wash.

BIRTHS

Brandon Scott Plummer—to Airman 1st Class Rebecca Plummer, 314th OSS/OSW, Little Rock AFB, Ark.
Heather Elizabeth Bailey—to Senior Airman Dustin and Nichole Bailey, HQ AFGWC, Of futt AFB, Neb.
Amy Millie Buckley—to Maj. Sharon Buckley and Keith, HQ AFGWC, Of futt AFB, Neb.
Megan Ann McCormick—to Senior Airman Samantha and Mark McCormick, HQ AFGWC, Of futt AFB, Neb.
Maximilian Christopher Hansen—to Senior Airman Sean Hansen, Det. 7, 7th WS, Grafenwoehr, Germany and Maria Hansen.

MARRIAGES

Airman 1st Class Shawn T. and Lori Koch, 314th OSS/OSW, Little Rock AFB, Ark.
2nd Lt. Brian A. Schnitker, 4th OSS/OSW, Seymour Johnson AFB, S.C., to Vicki Gillen
Senior Airman Paul W. Walker, Jr., OL-C, 18th WS, Fort Knox, Ky., to Heather Schafer
Senior Airman Kenny Sutton, 3rd OSS/OSW, Elmendorf AFB, Alaska, to Airman 1st Class Dalia DeLeon, 12th OSS, Randolph AFB, Texas

MISCELLANEOUS

Selected for Air Force Pilot Training
2nd Lt. Lendy G. Renegar, HQ AMC TACC/XOW, Scott AFB, Ill.

PLANNING,

continued from Page 6

Take a look at the July 1996 issue of the *OBSERVER* and read Chief Des Jardin's article on "What the Boards Look At." There's some valuable information there, folks.

Don't forget what "you" need to look at. Take a very close look at your

promotion records. I cannot stress this enough. Look for mistakes in your promotion data verification record. Call the promotions board at Air Force Personnel Center and review your promotion record, item by item. Go over each citation to ensure they have them all and are not just quoting numbers. It is your responsibility to ensure everything is correct. If you do all these things and study hard, you will be in the running.

As a closing note, I highly encourage all enlisted personnel to seek out a chief master sergeant to employ as a mentor. Talk with them about planning your career path. Any chief would be more than willing to sit down and talk with you and make suggestions that may help you along.

Contact Chief Master Sgt. Rick Monette at DSN 576-4731, ext. 224, or via E-mail at "monettr@hqaws.safb.af.mil".

RE-ENGINEERING,

continued from Page 3

At the meeting in October, our senior weather leaders reviewed what we do and how we do it within AFW — identifying both strengths and weaknesses of our current organization, products, and processes. Our goal in re-engineering will be to keep and expand our strengths while fixing our weaknesses while moving toward our AFW vision. What did we view as our major strengths? I have listed them below:

- First and foremost, our people — people who go into harm's way with the warfighters on a moment's notice ... anywhere, anytime. They are smart, motivated, innovative professionals.
- Our worldwide observing and forecasting network.
- Our production centers — AFGWC, AFCCC, 50 WS — including our regional forecast units.
- Our world-class strategic products.
- Our world-class cloud analysis/forecasting capabilities.
- Our leadership within the DoD for climatology and Modeling and Simulation.
- Our premier space forecasting capability.
- Our Combat Weather Center

and our Weather Schoolhouse.

- Our focused warfighter training that we provide at our weather warriors' combat skills course.

Next, based on identified weaknesses, we identified potential improvements in the areas listed below. Certainly, the few items listed below are just a start, but an important one in improving a vital Air Force mission area — weather operations. Key AFW business process areas with planned improvements are given below:

Operations

- Ensure AFW is always integrated completely into the combat decision cycle
- Provide focused, tailored, responsive, accurate, and relevant weather information — meeting the needs of the warfighter

Acquisition/Technology

- Take full advantage of rapid prototyping and technological advances
- Maximize the use of COTS/GOTS (commercial-off-the-shelf/government-off-the-shelf)
- Field the same software in peace and war. In other words, the same in the weather station as in the deployed environment
- Improve our communications and technology base to allow us to share information at all levels, all the time

Training

- Improve our training focus, realign resources to better match our processes and maximize benefits

Functional Oversight

- Improve functional oversight across AFW

- Provide an environment where our people receive the mentoring needed to be weather warriors and future leaders

Marketing

- Improve marketing so our people know the warfighter needs and warfighters know our capabilities

The above is certainly a “work in progress,” but we are making very good things happen, thanks to many of you who have been supporting our effort — your hard work and ideas are definitely appreciated. Please feel free to pass any of your thoughts to me, Chief Hoy, or our re-engineering team via a phone call or an E-Mail — we look forward to hearing from you. Together, we can make AFW “the Warfighters choice for battlespace weather information on demand for Global Reach, Global Power, and Global Engagement; providing the knowledge needed to own the weather.”

Finally, I would say again that I hope your holiday season was enjoyable and relaxing and I would wish you the very best for 1997. For that matter, 1997 will be yet another year of great challenges and positive changes — we will be relying on you to help all of us make it even more successful. Thanks for all your outstanding support and hard work.

TARGET,

continued from Page 21

This user-friendly software incorporates weather conditions, target characteristics, and geographical information.

Using the Internet, pilots from the 46th Test Wing and meteorologists from the 46th Weather Squadron at Eglin AFB, Fla., use the IRTSS software located at Hanscom AFB, Mass. The IRTSS operators enter the mission date, time, location, and current weather forecasts into the software program and develop a simulated infrared scene showing the target and background. The resulting prediction helps the pilot in real target identification and mission execution.

During the one-year test period, some

pilots will use the IRTSS before their missions, while others will not. The success rates of these two groups will be compared later to determine the impact of IRTSS in improving mission effectiveness.

“IRTSS will improve mission effectiveness and enhance aircrew survivability by factoring weather into the mission planning process and en-

hancing aircrew situational awareness,” said Capt. Dana Madsen, IRTSS program manager. Phillips Lab hopes to integrate the IRTSS with the Air Force Mission Support System in 1996.

For more information about the IRTSS, call Rene Cormier at (617) 377-4871, or contact via E-Mail at “Cormier@plh.af.mil”.

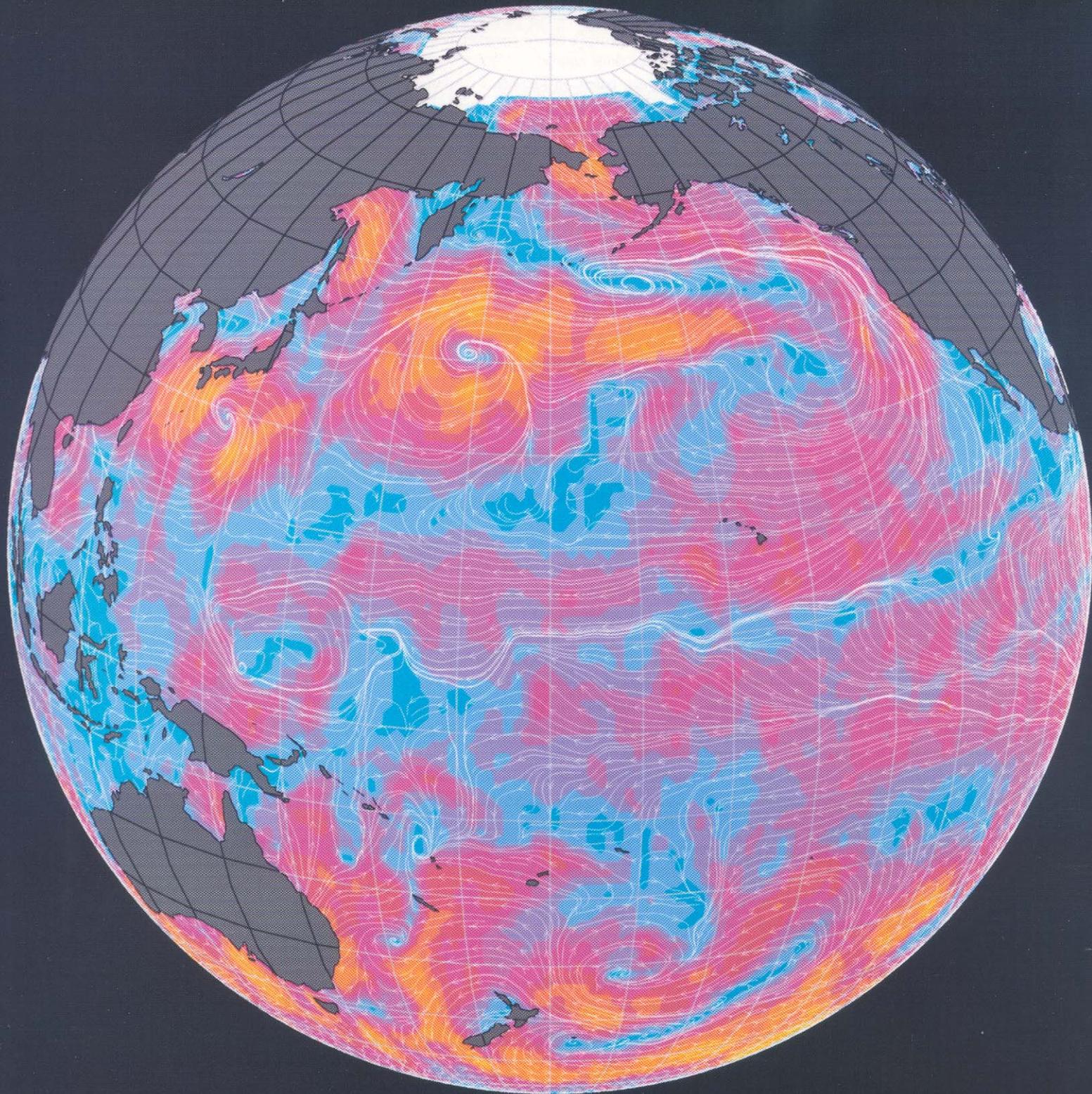
Air Force Weather Chief Selectees



The following people have been selected for promotion to the rank of chief master sergeant. Congratulations to all those selected.

Leonard L. Czepiel
Charles J. Evans, Jr.
Penny M. Heinen
Ronald C. Mueller
Anthony R. Rameriz

McClellan AFB, Calif.
Ramstein AB, Germany
HQ AWS, Scott AFB, Ill.
Fort Knox, Ky.
Pentagon, Washington, D.C.



This image taken by the NASA Scatterometer aboard the Advanced Earth Observing Satellite shows ocean wind speeds and directions over the Pacific Ocean Sept. 21, 1996. The background color indicates wind speed with blue being low winds, red as moderate winds, and yellow as high winds. The white arrows show the wind direction. The yellow-orange spiral seatures in the ipper left near Japan are Typhoons Violet and Tom. Typhoon Tom is in the open ocean. Typhoon Violet is just south of Japan. After this data was recorded, Typhoon Violet hit the east coast of Japan, causing damage and deaths.