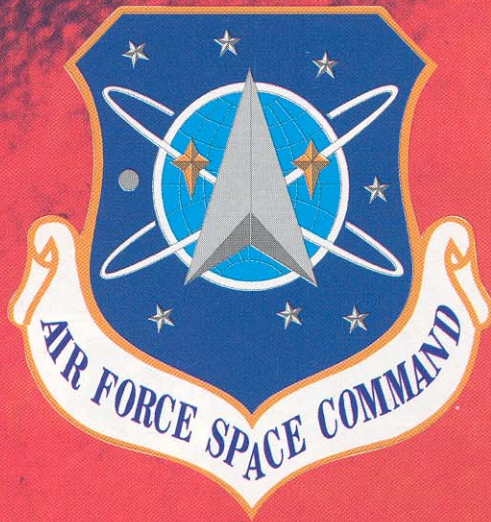


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AFSPC

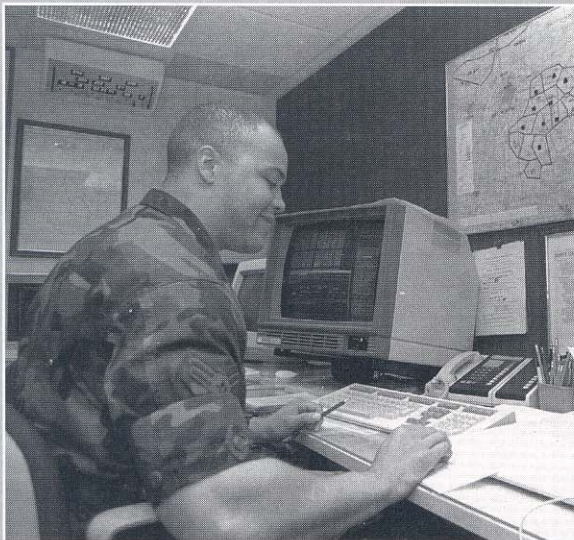


Air Force Vision

***Air Force people
building the
world's most
respected air
and space
force... global
power and reach
for America***



Digital image by Combat Camera, via Internet



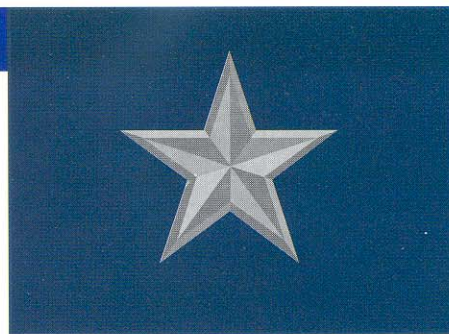
Digital photo by TSgt. William Rhodes



AWS Vision

***Total Force
Professionals
Arming America's
Combat Forces
with the Winning
Edge — The
World's Best
Military Weather
Capability***

Perspectives From The Top



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

Picture yourself for a moment as a combat commander with the task of defeating an enemy while conserving your own force strength.

No matter whether you're fighting on the ground, in the air, or in space, one of your absolute "must-haves" for mission success is *tailored weather information*.

To get it, you're going to turn to the warrior professionals of Air Force Weather. You'll expect those folks to be ready to give you exactly what you need -- nothing more, nothing less. To help AFW enhance scenarios like this, we've established the Dennis M. Kerrigan Combat Weather Facility (CWF) at Hurlburt Field, Fla.

Under the CWF umbrella there are four divisions -- Training; Exercise; Technology; and Tactics, Techniques, and Procedures (TTP). The Air Education and Training Command will run the Training Division, which will soon provide training in tactical skills to *all* AFW weather personnel. AETC calls this mission-ready training ... I call it the foundation for our combat role and a first for AFW personnel.

The other three division are aligned under Air Weather Service (AWS). The Exercise Division will simulate all levels of AFW operations -- from the strategic to the operational and tactical levels. By ex-

posing AFW personnel and leaders to these scenarios, they will help AFW attain the highest degree of readiness and vastly improve our decision-making ability in wartime scenarios.

Linked to industry, academia, the Services' Research and Development community, and most importantly, your suggestions in the field, the folks in the Technology Division will critically evaluate new technologies and ideas. Their contributions, such as recommendations on what technologies to procure, will help AFW senior leadership in making informed decisions about the future of AFW.



The TTP Division will bring it all together so that the new technologies, information and ideas are quickly leveraged to you. I've heard lots of good feedback on the AWS Meteorological Enhancement Teams (METS) for garrison operations and expect even better results from the CWF METS that will provide tactical insights.



For example, in review of an OPLAN or a CONPLAN, these METS can assess weather's impact on planned operations and weapons systems for a given area-of-operation.

Our concept of the CWF is simple -- the development of AFW personnel with a combat focus while simultaneously building a world-class center that will help us all use weather as a force multiplier on the battlefield. Accordingly, I've taken action to have the CWF designated as a "reinvention laboratory" under the President's Reinventing Government initiative.

Standing up a new organization always presents some interesting challenges -- we will overcome them.

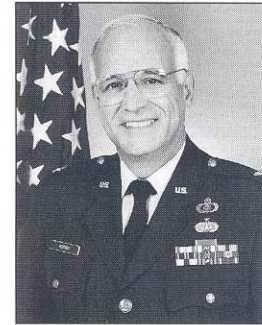
This facility is a "must" and should provide the essential foundation to successfully support our military mission. Today's world requires constant readiness, and we can't afford to forfeit this number-one priority.

I look forward to the CWF working with AFW personnel everywhere to accomplish our mission.



Command Line

Col. Frank J. Misciasci Jr.
Air Weather Service
Commander



Getting The Product To The People Who Need It

At one time or another during the course of our careers, we have all experienced the frustration of not being able to get the data or products we need to do our job.

Despite the advances in our ability to display and manipulate weather data to improve customer support, our ability to communicate from the Air Force Global Weather Central to the field, or from the field to the center has not kept pace.

The Automated Weather Network has served us well over the years, but we are strained to the breaking point with the landline circuits and hubs which make up the AWN.

The addition of the Automated Weather Distribution System communications circuits to our comm architecture has pretty well brought us as far as we can go in moving data from our centers to the warfighter.

It's certainly no understatement, as I'm sure that any of you who have deployed recently will attest, that the kluge of systems we have to get products to you leaves a lot to be desired.

This is not to disparage the fine efforts of all of you folks who make

the system work, because you are doing an outstanding job for us—it's just that we have reached the limits where we can't improve to meet the needs of our combat forces without major surgery.

"...We have reached the limits where we can't improve to meet the needs of our combat forces without major surgery."

I'm glad to be able to tell you that help is on the way. Air Weather Service, together with Col. George Yurchak and his folks at the 38th Engineering Installation Wing at Tinker AFB, Okla., and Mr. Ansley Stevens and our friends at ESC who acquire our new weather capabilities, are working hard to put METSAT data onto your AWDS.

It looks like the solution to this requirement will be to exploit commercial satcom to deliver satellite data directly as it is received from AFGWC's satellite ingest to your location.

The relay will involve very high data rate satellite links and, as a result, you will be able to receive and display satellite data from any of the

U.S. and foreign satellite sources received at Global.

Best of all, due to the nature of the satcom network most likely to be employed, we believe we will be able to migrate all of the rest of our weather communications to this same system.

And, since the receiving antenna at your base weather station will be of tactical dimensions (about two feet by three feet), we will be able to use this capability to send (and receive) any data a base weather station receives (or transmits) to deployed forces as well (unless they are deployed to the north or south pole).

We are planning to have the initial capability for satellite data transmission and ingest on AWDS in the fall of 1996, and if all goes well to begin to migrate the remaining AWN functions beginning in 1997.

If we are successful, we will have achieved an operational capability which will meet the weather data and product dissemination needs of the Air Force and DOD well into the next century -- and we intend to be successful!

Stay tuned -- and I do mean tuned -- for progress reports and updates.

"... Help is on the way."



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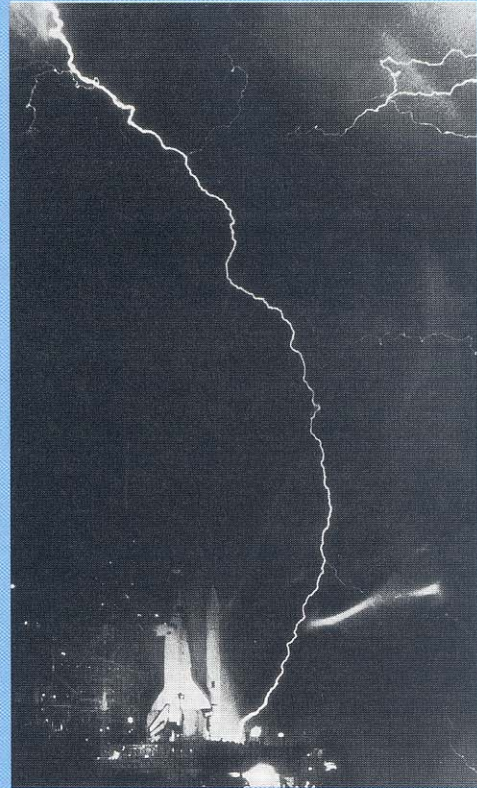
FOCUS

Air Force Space Command, in just 13 years of existence, has established itself as one of the premier resources in the U.S. military.

As a component of U.S. Space Command, AFSPC supports USSPACECOM's warfighting mission. As a USAF major command, AFSPC acts as the "Guardians of the High Frontier" throughout the world.

Weather personnel play a critical role in the AFSPC mission, from giving the go-ahead for a rocket launch to warning military of solar flares which could disrupt communications.

For more about the role of Space Weather, see pages 12-15.



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U.S. Air Forces in Europe takes the crown

SSgt. Steve Elliott Air Weather Service Public Affairs

HURLBURT FIELD, Fla. -- The U.S. Air Forces in Europe forecasting team took the top award and an armload of others at the second annual Air Force-wide Weather Forecasting Competition, Forecast Challenge '95, held here March 6-10, 1995.

TSgt. Alfredo Dominguez III, from Ramstein Air Base, Germany, and SSgt. Dennis B. Ramsdell, from Giebelstadt AB, Germany, took home the Yates Award as the top overall team. Dominguez and Ramsdell also made history as the first team to either win or show in all four award categories. The USAFE team also took home the Ellsworth Award for best mission forecast and placed third in both the Lucey-Speer Award competition for target forecast and Dunlap-Weiberg Award competition for terminal aerodrome forecast.

The teams from Air Force Global Weather Central and Pacific Air Forces were also multiple winners.

The Yates Award is given to the overall first-place team. It is named for Lt. Gen. Don Yates, co-head forecaster for OPERATION OVERLORD, the allied invasion of Europe in June 1944. While the USAFE team took first place, second place went to the Air Mobility Command team of SSgt. Joseph C. Burge, Scott AFB, Ill., and SSgt. Claude G. Trantor, from Dover AFB, Del. In third were the team representing the Air National Guard, MSgt. Jeffrey A. Goldman and TSgt. Nelson W. Lee, both of Ellington Air National Guard Base, Texas.

The Ellsworth Award is awarded for the top team in mission forecasts. It is named for Brig. Gen. Richard Ellsworth, who led forecasting support for the China/Burma Hump airlift during World War II. The team from USAFE won this award. Second place in this category went to the Air Force Space Command team, comprised of SSgt. Jeffrey A. Marshall, Peterson AFB, Colo., and SSgt. Jeffrey T. Mitchell, Malmstrom AFB, Mont. The third-place finishers were from Air Education and Training Command: TSgt. Donna L. LaCourse, Randolph AFB, Texas, and SSgt. Mary R. Whitney, Columbus AFB, Ga.

The Lucey-Speer Award is awarded to the first-place team in target forecasts. It is named for Sgts. John Lucey and Robert Speer, who lived with a Marine invasion force at a forward command post in Bougainville during WWII and relayed target weather to incoming fighters and dive bombers. The winners in this category were from Air Force Global Weather Central at Offutt AFB, Neb. This team was made up of TSgt. David C. Dickenson and TSgt. Donald G. Carson. Second place in this category were the Pacific Air Forces team of SSgt. Jimmy L. Scott, Kadena AB, Japan; and SSgt. Ronald B. Sharp, Elmendorf AFB, Alaska. The third-place finishers were USAFE's Dominguez and Ramsdell.

The Dunlap-Weiberg Award is awarded to the first-place target aerodrome forecasts. It is named in honor of SSgt. Robert Dunlap and Sgt. Erling Weiberg, who were the first American military weather personnel to serve along the North Atlantic ferry route (Gander, Newfoundland) during World War II and drew the first North American synoptic weather map. The top team in this category were PACAF's Scott and Sharp. Second place went to AFGWC's Carson and Dickinson, while third went to USAFE.

Simulating an actual deployment, the teams from nine major commands, the Air Force Reserve, Air National Guard and Air Force Global Weather Central, used only limited data to make an initial forecast.

The competition was composed of three separate events which simulate real-world

Editor's Note: A more comprehensive look back at FORECAST CHALLENGE '95 in words and photos will be featured in the May edition of the OBSERVER magazine.

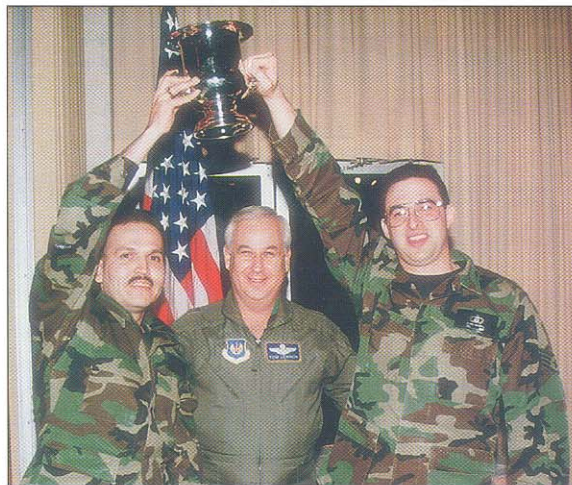


Photo by SSgt. Steve Elliott

The Winners!

USAFE team members TSgt. Alfredo Dominguez III (Ramstein AB) and SSgt. Dennis B. Ramsdell (Giebelstadt AB) celebrate winning the Yates Award with Air Force Director of Weather Brig. Gen. Thomas J. Lennon at the Forecast Challenge '95 awards banquet.

taskings and challenged weather forecasters' readiness and technical skills. Each event was built around a scenario to include a variety of Air Force Weather operations and reflected the complexity of forecasting in different climatic areas around the world.

The other competitors, the major commands they represent and their bases or origin were:

Air Combat Command (Air Force) -- TSgt. Steven R. Grimes (Nellis AFB, Nev.); and SrA. Tricia A. Oleksa (Howard AFB, Panama).

Air Force Material Command -- SSgt. Robert E. Curry (Eglin AFB, Fla.); and SSgt. Randall E. Ritchie (Wright-Patterson AFB, Ohio).

Air Combat Command/Army Support -- SSgt. Barry J. Hunte (Hunter AAF, Ga.), and Sgt. Carlos A. Delanuez (Hunter AAF, Ga.).

Air Combat Command/IMA -- TSgt. Michael J. Carmody (Whiteman AFB, Mo.), and TSgt. John D. Sumption (Ellsworth AFB, S.D.).

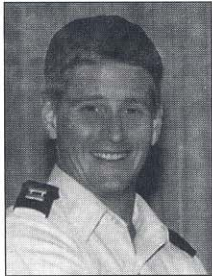
Air Force Special Operations Command -- SSgt. Brad Weiman (Fort Bragg, N.C.) and SSgt. James Dixon (Hurlburt Field, Fla.).

Officer Opportunities

Opening the doors with advanced degrees

Capt Tim Hutchison
Air Weather Service
Chief of Personnel

In last month's column, I discussed the values of and the opportunities for obtaining advanced academic degrees (AAD) in the atmospheric sciences, and high-



lighted the importance of completing that degree. As I alluded to, an advanced degree (whether technical or non) is important, and that the choice you make will effect the type of jobs you will have available to you in the future.

What do I mean? It's important to be informed as to the types of jobs you must fill upon your degree completion, and can fill later on in your career, before you choose to obtain your degree from AFIT.

So....once you have your advanced degree, where can you go and what can you do?

Primarily, the bulk of the AAD positions are in the AWS Field Operating Agency—either at Air Force Global Weather Central, USAF Environmental Technical Applications Center (ETAC), or at HQ AWS.

In addition, MAJCOM staffs, the Air Force research and weapons laboratories, various weather squadrons have requirements for officers with advanced education.

For example, the 50th Weather Squadron, at Falcon AFB, has numerous positions for officers with a masters degree in Space and Solar Sciences, due to the highly technical nature of their support.

Likewise, the Joint Typhoon Warning Center in Guam provides tremendous op-

portunities to become an expert in tropical meteorology. There are also several opportunities to support National Program customers as a staff meteorologist.

Now that you know where you can go—the next question is what types of jobs are available when you get there? While some carry the opinion that once you obtain your advanced degree the jobs available are narrow and “geeky”.

Quite the contrary.

The advanced degree opens a host of opportunities to learn the ins and outs of the AF weather business, whether it be developing and refining theater scale climatologies or forecast models, leading efforts to develop automated weather satellite forecast databases, or planning the future of Air Force weather support, the opportunities are endless.

At a high level, the largest range of opportunities will be at the larger centers, i.e. USAFETAC, AFGWC and 50 WS.

At these locations, jobs are available doing application, model and techniques development; working system acquisitions, defining technical requirements for future systems, as well as improving the way we visualize and merge the myriad of data available to provide a coherent picture to the operational customer. Regardless, the opportunities are virtually endless.

As I said, the MAJCOM and FOA staffs have definite needs for officers with the background and technical expertise to work complex policy, planning, acquisition, and technology insertion issues which dramatically effect the way AF Weather does business today and will do it in the future.

What should be your focus?

As I said in previous columns, your focus should be your current job—becoming the expert, and doing it the absolute best you can.

You know the old saying “your most important job is the one you are in right now”. Your potential will be measured by the way

in which you did the jobs given to you.

The advanced studies you've completed show many things—you can solve tough problems through logical, and innovative, and often creative thinking. When in an AAD job, you need to use that same level of thinking and problem solving skills to be successful.

While I haven't specifically addressed each and every location and job available to the advanced degree-holding officer, I hope this provides a brief overview of the opportunities available.

Remember—You're not alone out there when it comes to career guidance. Your supervisors, senior leaders and the Air Force Military Personnel Center assignments officer can provide tremendous insight to guide you in your Air Force career.

We are currently looking at the possibility of significant changes to the way Air Force Weather applies its advanced degree officers.

Specifically, we're looking at changing the paradigm of officers in the base weather station, through the injection of advanced degree officers.

Obviously, this is a change from the way we do business today and, most assuredly, will result in a significant increase in the numbers of advanced degree slots available each year and the potential job opportunities to qualified officers. Stay tuned on this one.

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

Write to me at: Capt. Tim Hutchison, HQ Air Weather Service, Chief of Personnel (AWS/RMP), 102 West Losey St, Room 105, Scott AFB IL 62225-5206 or DSN 576-4895, ext 344.

You can also contact me through e-mail at “Hutch@hqaws.safb.af.mil”.

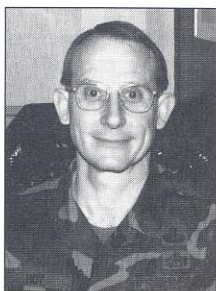
Combat Skills Training

Organized, equipped for wartime



CMSgt. Jim Hoy
Air Force Weather
Senior Enlisted Advisor

This month marks the inauguration of the combat initial skills training in conjunction with the weather initial skills course.



What, you may ask, is that all about?

Let's start with a note from Air Force Doctrine Document 45, Aerospace Weather Operations, "Weather personnel are professionals who must be able to provide quality, tailored, weather information to the warfighters. They must, therefore, possess both technical proficiency and **military skills** ... Training must include and simulate many of the uncertainties expected during contingencies of war..."

For as long as I can remember (and no comment on how long I've been doing this), we have expected our Air Force weather personnel to perform their skills, forecasting and observing, in tactical situations.

We have relied almost exclusively on unit level on-the-job-training to teach those tactical skills. Many times we slighted the development of those skills. Then we deployed our people in situations like Operation DESERT STORM with little more tactical training than weapons familiarization and disaster preparedness training.

We put people in tents, required them to camouflage their positions, and establish defensive procedures without the benefit of formal, standardized training. **TIMES HAVE CHANGED!**

Starting April 9, students attending initial skills weather courses at Keesler AFB will be bussed to Hurlburt Field, Florida, for the first formal training in field tactical and technical skills.

For five days, the students will receive Air Education and Training Command instruction in: erecting tents; personal, site, and vehicle camouflage; maps and land navigation; perimeter defense; generator operation; along with hands-on training to operate our tactical weather equipment.

By the way, the training is conducted at field sites, where the students are living in tents, not being bussed back and forth be-

tween the field site and a dormitory.

This represents only the beginning of our commitment to provide formal training in the combat skills.

This first course consists of 41 hours of instruction, almost equally divided between lecture and performance. The amount of training time was limited for the inaugural courses. However, the major commands have detailed a plan to expand the formal training to increase the number of areas and the amount of hands-on practice.

Air Force Weather is a force multiplier; it consists of active and reserve Air Force personnel who are organized, equipped and trained to enhance combat operations.

Articles in the *OBSERVER* have detailed some of the changes being made to formal training -- combat war skills is one more.

If you're interested and haven't seen the draft plans on the weather war skills specialty training standard, contact your major command's director of weather office.

As always, if I can answer any questions, give me a call at DSN 224-7410, HQ USAF/XOW.



AWS Strategic Plan

Senior leaders work to finalize

Maj. John Barnhart
Chief, Process Improvement
Division, HQ AWS

The first Air Weather Service Field Operating Agency Strategic Plan—a road map for the future that sets direction and a focus for the organization to address change positively and proactively -- is taking form.

From Feb. 21 - 23, representatives of the AWS Strategic Planning Team consisting of the AWS Commander and Vice Commander; Air Force Global Weather Central Commander; the U.S. Air Force Environmental Technical Applications Center Commander; HQ AWS Director for Systems and Communications; HQ AWS Director for Technology, Plans and Programs; and the HQ AWS Director of Resource Management met for the fourth time to develop the FOA's goals and objectives.

The team began this session by reviewing their customer's key requirements for each of the AWS Mission Elements, which had been validated through surveys sent to key customer groups during the fall of 1994.

The five AWS Mission Elements which the team determined represent the FOA's Key Products and Services are:

1. Plan for and provide standard weather systems
2. Plan for and provide centralized weather products
3. Provide technical advise and help
4. Ensure standardization of procedures and interoperability
5. Assess the technical performance and effectiveness

To help focus on these key products and services, the team drafted a list of the key customers, suppliers, products, services, and critical processes needed for each element.

This completed the team's analyses of the mission stage of the strategic

Strength, Weakness, Opportunity, Threats, and Constraints analysis.

Working with the FOA's vision, the team developed a list of themes to position the FOA towards a direction that will meet its vision.

For each mission element they then developed a list of major conclusions and decisions that must be addressed to help move the FOA. Their analysis considered where we are today, where we want and need to be in the future, and what our customer require.

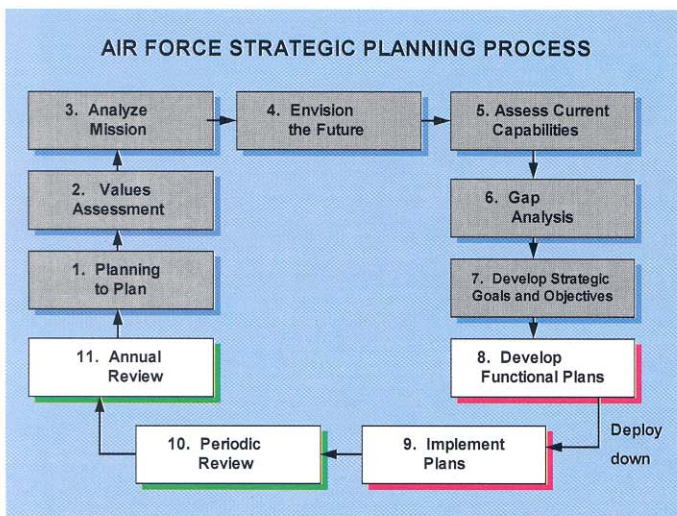
The team then developed a list of strategic goals and objectives based upon critical issues identified in the previous analysis. These goals are intended to be long-term, two to four year, statements that outline a desired condition for the FOA. Each goal is further defined by its underlying objectives which are measurable specific statements of short-term, one to two year, conditions or achievements.

Now that the draft strategic plan has been developed, with goals and objectives, the Strategic Planning Team will meet to review and finalize the plan.

Once approved, the plan will be deployed throughout the FOA for development of action plans. These action plans are specific methods or processes to achieve the results called for by one or more objectives. They will also link the day-to-day workplace activities to the FOA's mission, vision, goals, and objectives.

For further information, contact the Process Improvement Division of HQ AWS at DSN 576-5654.

validated customer requirements, critical processes for the FOA's key products and services, and the FOA mission statement. They assessed the current capabilities of the FOA through a





LEGION OF MERIT

Col. John L. Hayes, Headquarters Air Weather Service, Scott AFB, Ill.

DEFENSE MERITORIOUS SERVICE MEDAL

Capt. John Driessnack, HQ AWS, Scott AFB, Ill.



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Col. Gerald F. Riley Jr., HQ AWS, Scott AFB, Ill.



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 SSgt. Richard D. Slominsky, USAFETAC, Scott AFB, Ill.
 SSgt. Stephen M. Strait, 18th WS, Ft. Bragg, N.C.
 SSgt. Dale L. Payne, OL-B 18th WS, Ft. Eustis, Va.
 SSgt. Barry J. Hunte, 15 ASOS, Hunter Army Airfield, Ga.



AIR FORCE GOOD CONDUCT MEDAL

MSgt. Linda M. Mango, HQ AFGWC, Offutt AFB, Neb.
 MSgt. Manuel M. Vela Jr., 18WS, Ft. Bragg, N.C. (6th OLC)
 TSgt. Jeffrey D. Smeby, HQ AFGWC, Offutt AFB, Neb.
 TSgt. Timothy A. Kalb, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Jacy L. Botsford, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Max R. Boulton Jr., HQ AFGWC, Offutt AFB, Neb.
 SSgt. Phillip B. Hamblett, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Loretta J. Lemley, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Paul W. Pervis, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Glenn K. Simms, HQ AFGWC, Offutt AFB, Neb.
 SSgt. Roseanne I. Sinn, 3rd ASOS, Ft. Wainwright AIN, Alaska
 SSgt. Craig E. Coe, 3rd ASOS, Ft. Wainwright AIN, Alaska
 Sgt. Rodney L. Hammonds, HQ AFGWC, Offutt AFB, Neb.
 Sgt. Kenneth A. Ferguson, HQ AFGWC, Offutt AFB, Neb.
 Sgt. Bradley A. Little, HQ AFGWC, Offutt AFB, Neb.
 Sgt. Erik D. Rabes, HQ AFGWC, Offutt AFB, Neb.
 SrA. James D. Northamer, HQ AFGWC, Offutt AFB, Neb.
 SrA. Jonathon N. Sherman, USAFETAC, Scott AFB, Ill.
 SrA. David P. Pearson, USAFETAC, Scott AFB, Ill.
 SrA. Stuart T. Carter, USAFETAC, Scott AFB, Ill.
 SrA. Gregory C. Battle, USAFETAC, Scott AFB, Ill.
 SrA. Carol D. Pritchard, 3rd ASOS, Ft. Wainwright AIN, Alaska
 SrA. Thomas R. Cross, 3rd ASOS, Ft. Wainwright AIN, Alaska
 SrA. Amy K. Owen, 18th WS, Ft. Bragg, N.C.

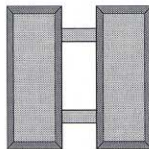
HUMANITARIAN SERVICE MEDAL

Capt. Christopher A. Donahue, USAFETAC, Scott AFB, Ill.
 Capt. Robert J. Falvey, USAFETAC, Scott AFB, Ill.
 Capt. Kevin F. Havener, USAFETAC, Scott AFB, Ill.
 Capt. Jeffrey H. McCoy, USAFETAC, Scott AFB, Ill.
 Capt. David J. Speltz, USAFETAC, Scott AFB, Ill.
 Capt. Michelle M. Edwards, USAFETAC, Scott AFB, Ill. (Separated)
 1st Lt. Michael Protz III, USAFETAC, Scott AFB, Ill.
 MSgt. Manuel E. Lopez Jr., USAFETAC, Scott AFB, Ill.
 MSgt. John F. Panus, USAFETAC, Scott AFB, Ill.
 TSgt. William J. Thompson, USAFETAC, Scott AFB, Ill.
 TSgt. Todd C. Knauer, USAFETAC, Scott AFB, Ill.
 TSgt. Kenneth R. Gibson, USAFETAC, Scott AFB, Ill. (Retired)
 TSgt. Rober H. Lehrman Jr., USAFETAC, Scott AFB, Ill.
 TSgt. Dennis W. Murphy, USAFETAC, Scott AFB, Ill.
 SSgt. Anthony Palmieri, USAFETAC, Scott AFB, Ill.
 SSgt. William C. Ogle, USAFETAC, Scott AFB, Ill.
 Sgt. Michael J. Miller, USAFETAC, Scott AFB, Ill.
 SrA. David P. Pearson, USAFETAC, Scott AFB, Ill.
 SrA. David A. Baldwin, USAFETAC, Scott AFB, Ill.
 SrA. Lance E. Fraley, USAFETAC, Scott AFB, Ill.
 SrA. Jonathan N. Sherman, USAFETAC, Scott AFB, Ill.

ARMED FORCES EXPEDITIONARY MEDAL

1st Lt. Donald G. Shannon, 18th WS, Ft. Bragg, N.C.
 SSgt. John W. Lindfors Jr., 18th WS, Ft. Bragg, N.C.
 SrA. Richard A. Cumbo, 18th WS, Ft. Bragg, N.C.
 SrA. Frank Acevedo III, 18th WS, Ft. Bragg, N.C.

Salutes



Andrew Reeder, 18WS, Ft. Bragg, NC



John W. Schmidt, HQ AWS, Scott AFB, Ill.



Danette R. Peters, USAFETAC, Scott AFB, Ill.
Richard S. Hammond, USAFETAC, Scott AFB, Ill.
Jim Marling, 28th OSS, Ellsworth AFB, S.D.



Theodore K. Junge, HQ AFGWC, Offutt AFB, Neb.
Scott A. Straw, USAFETAC, Scott AFB, Ill.
Scott A. Schultz, USAFETAC, Scott AFB, Ill.
David L. VandenHeuvel, 25 ASOS/DOW, Wheeler AAF, Hawaii
David Pagillo, 355 OSS/OSW, Davis-Monthan AFB, Ariz.



Bennie G. Solberg, HQ AFGWC, Offutt AFB, Neb.
Keri Kennedy, 28th OSS, Ellsworth AFB, S.D.
Michael D. Nehls, 25th ASOS/DOW, Wheeler AAF, Hawaii
Carlos A. Delanuez, 15th ASOS, Hunter Army Airfield, Ga.
Wesley G. Fillmore, ACC AOS/AOW Weather Support Unit, Langley AFB, Va.



James D. Northamer, HQ AFGWC, Offutt AFB, Neb.
Tobin A. Smith, USAFETAC, Scott AFB, Ill.
Kenneth G. Weston, USAFETAC, Scott AFB, Ill.
David M. Tyler, 3rd ASOS, Ft. Wainwright AIN, Alaska
Carol D. Pritchard, 3rd ASOS, Ft. Wainwright AIN, Alaska
Yvonne B. Bernhard, 3rd ASOS, Ft. Wainwright AIN, Alaska
Jamie P. Holcomb, OL-A 18th WS, Ft. Belvoir, Va.
Thomas R. Bryant, 4th WF, Ft. Devens, Mass.



Bryan S. Barks, HQ AFGWC, Offutt AFB, Neb.
Rebecca S. Rich, USAFETAC, Scott AFB, Ill.
Joseph A. Zurla, USAFETAC, Scott AFB, Ill.
Jon Rosario, 28th OSS, Ellsworth AFB, S.D.
Christopher J. Allen, 18th WS, Ft. Bragg, N.C.
Penelope L. Peters, 18th WS, Ft. Bragg, N.C.
Chandra M. Wright, 18th WS, Ft. Bragg, N.C.
Todd V. Preimesberger, OL-A 18th WS, Ft. Bragg, N.C.
Jennifer Nazworth, 355 OSS/OSW, Davis-Monthan AFB, Ariz.



Kevin D. Angell, USAFETAC, Scott AFB, Ill.
Scott A. Losenicky, 341st OSS/DOW, Malmstrom AFB, Mont.
Dominique Ross, 28th OSS, Ellsworth AFB, S.D.
Fara Henry, 28th OSS, Ellsworth AFB, S.D.

EDUCATION

SENIOR NCO ACADEMY

SMSgt. Robert J. Fowler, USAFETAC, Scott AFB, Ill.
SMSgt. Phillip G. Abel, HQ AWS, Scott AFB, Ill.

NCO ACADEMY

TSgt. Scott A. Schultz, USAFETAC, Scott AFB, Ill.
TSgt. William J. Thompson, USAFETAC, Scott AFB, Ill.
TSgt. Todd C. Knauer, USAFETAC, Scott AFB, Ill.
Robert H. Powell, OL-A, 25 ASOS, Bradshaw AAF, Hawaii
TSgt. Edward J. Sheeche Jr., 18WS, Ft. Bragg, NC

AIRMAN LEADERSHIP SCHOOL

SrA. John F. Lenz, 18WS, Ft. Bragg, NC

TECHNICAL SCHOOLS

A1C Tracy D. Arundale, USAETAC, Scott AFB, Ill. (Honor Graduate)
A1C Stephen M. Connolly, USAFETAC, Scott AFB, Ill. (Honor Graduate)

CCAF DEGREE IN WEATHER TECHNOLOGY

SrA. Larry M. Overmyer, 4th WF, Ft. Devens, MA, WSR-88D Operations/Manager Course
MSgt. Steve K. Long, 341st OSS/DOW, Malmstrom AFB, MT
TSgt. Bradley N. Hopkins, 341st OSS/DOW, Malmstrom AFB, MT

REENLISTMENTS

SSgt. Timothy D. Poulter, 3rd ASOS, Ft. Wainwright AIN, Alaska
SrA. David M. Tyler, 3rd ASOS, Ft. Wainwright AIN, Alaska
SrA. Robert G. Fournier Jr., 18th WS, Ft. Bragg, N.C.
SrA. Todd Morris, 6th WF, Ft. Rucker, Ala.

RETIREMENTS

Maj. Ronan A. Mandra, USAFETAC, Scott AFB, Ill.
Capt. Robert H. Tippet, HQ AWS, Scott AFB, Ill.
Capt. Preston E. Wilson, USAFETAC, Scott AFB, Ill.
CMSgt. John A. Behnke, HQ AWS, Scott AFB, Ill.
MSgt. Robert D. Campbell, HQ AFGWC, Offutt AFB, Neb.
MSgt. Michael G. Nardi, 18th WS, Ft. Bragg, N.C.
MSgt. Laura S. Angel, OL-A 18th WS, Ft. Belvoir, Va.
TSgt. Steven M. Minelli, HQ AWS, Scott AFB, Ill.
TSgt. Richard T. Cox, 341st OSS/DOW, Malmstrom AFB, Mont.
TSgt. Kenneth D. DeOliviera, 341st OSS/DOW, Malmstrom AFB, Mont.

HAIL AND FAREWELL

Capt. Richard A. Carpenter - Langley AFB, Va. to Davis-Monthan AFB, Ariz.
1st Lt. Layne E. Kasper - Langley AFB, Va. to Laughlin AFB, Texas

AWARDS

HQ AWS Quarterly Award Winners (Jul-Sep 94)

Company Grade Officer: Capt. Jay B. DesJardins Jr., HQ AWS, Scott AFB, Ill.
Senior NCO: MSgt. Michael D. Thompson, HQ AWS, Scott AFB, Ill.
NCO: SSgt. Cheryl C. Glines, HQ AWS, Scott AFB, Ill.

HQ AWS Quarterly Award Winners (Oct-Dec 94)

Company Grade Officer: Capt. Charles D. Corpman, HQ AWS, Scott AFB, Ill.
Senior NCO: MSgt. Bruce E. Bronsema, HQ AWS, Scott AFB, Ill.
NCO: TSgt. William H. Dennis Jr., HQ AWS, Scott AFB, Ill.

18th WS Quarterly Award Winners (Sep-Dec)

Company Grade Officer: 1st Lt. Donald G. Shannon, 18th WS, Ft. Bragg, N.C.
Senior NCO: MSgt. John Jankite, 18th WS, Ft. Bragg, N.C.
NCO: SSgt. John A. Carroll, 18th WS, Ft. Bragg, N.C.
Airman: SrA. Carter F. Wirtz, 18th WS, Ft. Bragg, N.C.

18th WS Yearly Award Winners:

Company Grade Officer: Capt. Andrew E. Reeder, 18th WS, Ft. Bragg, N.C.
Senior NCO: MSgt. Larry W. Smith, OL-B, 18th WS, Ft. Eustis, Va.
NCO: SSgt. Charles F. Wood, Jr., 18th WS, Ft. Bragg, N.C.
Airman: SrA. Jamie P. Holcomb, OL-A, 18th WS, Ft. Belvoir, Va.

Air Force Space Command Grimes Award

341st OSS/DOW, Malmstrom AFB, Mont.

AFSPC Outstanding Weather NCO of the Year

MSgt. Steve K. Long, 341st OSS/DOW, Malmstrom AFB, Mont.

AFSPC Pierce Award

SSgt. Jeffrey T. Mitchell, 341st OSS/DOW, Malmstrom AFB, Mont.

AFSPC Dodsom Award

SrA. Michael A. Bilbey Jr., 341st OSS/DOW, Malmstrom AFB, Mont.

Company Grade Officer of the Quarter (Oct-Dec 94) for Malmstrom AFB, Mont.

2nd Lt. Matthew S. Kemp, 341st OSS/DOW, Malmstrom AFB, Mont.

Airman of the Year for the 3d Air Support Operations Squadron

SrA. Thomas R. Cross, 3rd ASOS, Ft. Wainwright AIN, Alaska

Airman of the Quarter for the 3d Air Support Operations Squadron

SrA. Jean P. Carlo, 3rd ASOS, Ft. Wainwright AIN, Alaska

Senior Parachutist Badge:

1st Lt. John B. Hennessey, 18th WS, Ft. Bragg, N.C.
1st Lt. Donald G. Shannon, 18th WS, Ft. Bragg, N.C.
TSgt. James N. Ozgunduz, 4th WF, Ft. Devens, Mass.

Slovakian Parachutist Badge:

SrA. Brandon G. Kindle, 4th WF, Ft. Devens, Mass.

HQ ACC/DO Senior NCO of the Quarter (1 FY 95)

MSgt. D. Robbie Robinson, Langley AFB, Va.

GUARDIANS



Air Force Space Command

MISSION

**Enhancing U.S.
military operations
by ensuring
access to and use
of space.**

30th Weather Squadron
Vandenberg AFB, Calif.
Provides operational and staff support to the 30th Space Wing and the civil and commercial customers of the Western Range as well as staff support to HQ 14th Air Force.

21st OSS Weather Flight
Peterson AFB, Colo.
Provides operational and staff support to the 21st Space Wing, Falcon AFB, Cheyenne Mountain, NORAD, HQ AFSPC and HQ U.S. Space Command.

341st OSS Weather Flight
Malmstrom AFB, Mont.
Provides weather services to combat-ready ICBM forces of the 341st Missile Wing and KC-135Rs of the 43rd Air Refueling Group and F-16s of the 120th Fighter Group.

90th OSS W
F.E. Warren
Provides opera
weather suppo
Missile Wing
Minuteman and
missiles, as well as
HQ 20th Air For

50th Weather Squadron
Falcon AFB, Colo.
Monitors and forecast
solar activity and spa
environmental conditio
for DOD, NASA, and
tional program custo
ers.



OF THE HIGH FRONTIER

Weather Flight
AFB, Wyo.
Regional and staff
support to the 90th
with its 150
50 Peacekeeper
staff support to
ce.

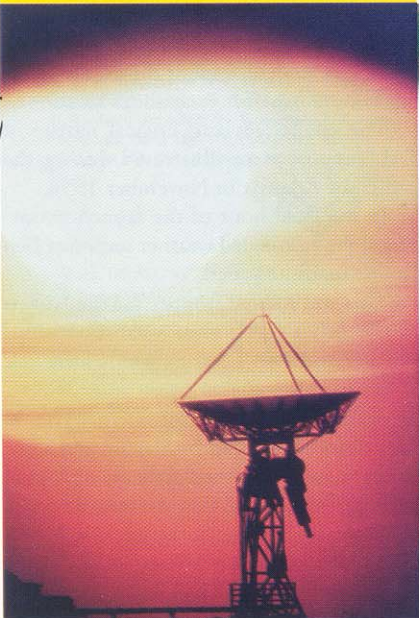
45th Weather Squadron
Patrick AFB, Fla.

Satisfies operational and staff weather requirements of the 45th Space Wing's and the civilian commercial customers of the Eastern Range.



50th Weather Squadron
Solar Observatories
Sagamore Hill, Mass.
Ramey, Puerto Rico
Holloman AFB, N.M.
Palehua, Hawaii
Learmonth, Australia
San Vito, Italy

Provide real-time warning of solar events to the Department of Defense and national customers.



Although Air Force Space Command weather units only number six, they are involved in many unique and challenging forms of weather operations.

Several organizations prepare traditional aviation forecasts. Other units metwatch tens of thousands of square miles in support of an ICBM missile wing.

Some AFSPC weather personnel evaluate important atmospheric parameters during the launch of space vehicles like the Space Shuttle and Titan IV.

Possibly the most unique weather mission represented in AFSPC involves warning satellite operators of space environmental conditions.

Aviation Forecasting

AFSPC's best example of operations associated with a flying unit is found at Malmstrom AFB, Mont. At this northern base, forecasters provide flight briefings for KC-135Rs as they conduct refueling missions to England, Turkey, and Japan.

SSgt Jeff Mitchell, AFSPC Forecaster of the Year for 1994, describes this challenging job as, "... using satellite images, Doppler radar, and various forecast products, we provide detailed en route weather briefings for all air refueling missions as well as missions abroad."

Their support to tankers also includes deploying to numerous locations worldwide as part of exercises and contingencies.



Launch Weather Operations

Probably the most exciting and challenging of all the missions open to members of AFSPC's weather force, is making weather green/red calls for ballistic or spacelift vehicle launches. The excitement comes with the roar of the rocket as it streaks skyward.



The challenge revolves around the fact that spacelift operations are very sensitive to weather. Another important aspect of launch operations involves the wide range of customers. AFSPC's Eastern and Western ranges support Department of Defense, other Federal Departments, and commercial companies.

California Countdown

It's early morning on the Central California Coast.

The eastern sky is brightening with the coming of dawn but no light has yet penetrated the thick shroud of fog hanging over the scrubby hills and canyons of Vandenberg AFB. The master clock counts down to T-0.

Suddenly the stillness is broken with a flash of light and thundering roar as a ballistic missile lifts out of its silo and begins its 4,200 mile journey to a target near the Kwajalein Atoll in the middle of the Pacific Ocean.

Among the members of the launch team being congratulated are the weather team, clad in missile crew uniforms, or "blue bags."

Their accurate forecasting and vigilant observation of potential triggered lightning producing clouds, during a 27-minute weather hold, allowed the ICBM to safely reach its watery target.

A TAL Tale

One launch vehicle that hopefully does not go up and come down as quickly as the ICBM is the Space Shuttle. However, if an emergency develops during the shuttle's ascent to space, the pilot is prepared to return to earth at one of three Transoceanic Abort Landing (TAL) sites.

These locations (Moron and Zaragoza Air Bases in Spain and Ben Guerir AB in Morocco) are manned by DOD weather personnel to ensure atmospheric conditions are safe for shuttle landing.

Forecasters from AFSPC's 21st Space Wing support the Morocco site. They release weather balloons which are tracked by a Radio Automatic Theodolite System (RATS).

Forecasters at NASA's Johnson Space Center receive the weather data in real-time and use it to determine if minimum landing criteria exist for each abort location.

The challenges and critical nature of TAL support were illustrated during the launch of Atlantis in November 1994.

In the final hour of the launch countdown, the automated weather station at Ben Guerir malfunctioned.

This was a show stopper for the launch as the other TAL sites were down for weather and Ben Guerir's winds were out of limits.

Acting on their own initiative, 21st SW forecasters SSgt. Timothy Slayton and SSgt. Gregory Spurck immediately set up a portable wind monitoring system and the communications to send the data to NASA at the Johnson Space Center.

These efforts let NASA know they could

abort to the Morocco TAL site and gave them the confidence to make a decision to launch.

Missile Operations

Providing forecasts for missile alert crews, security police and maintenance personnel that traverse and operate in over 12,000 square miles of open country is a routine part of operations at F. E. Warren AFB, Wyo.

To monitor the weather in such a large area with essentially no observing stations, weather personnel rely on remote sensing technologies like lightning detection systems and Doppler radar.

The Doppler radar has allowed forecasters to predict the deadliest of weather phenomena, the tornado, with over 30 minutes of advance warning.

Forecasting For Space

As military operations become increasingly dependent on space based communication systems, the warfighter becomes more vulnerable to adverse impacts from the space environment. The need to correctly observe and accurately forecast space weather is essential to success on the battlefield.

Observing The Sun

To monitor solar activity, the 50 WS

Forecasting Space Weather: Force Multiplier For Warfighters

The largest group of 50th Weather Squadron customers are users of high frequency (HF) radio and satellite communications. Translated, this means most of the warfighting community. Space forecasters provide predictions of worldwide HF propagation conditions every six hours. These forecasts allow radio operators to select usable frequencies, assuring critical messages get through. In addition to disruption of communications, geomagnetic storms can present a false indication of missile attack. 50 WS products enable missile warning radar operators to discriminate between environmentally-induced and real returns. Since an enemy attack might also include a strike against our satellites, warnings of solar or space environment activity help spacecraft operators determine whether anomalous behavior by a satellite is caused by the environment or an aggressor. Satellite operators also use space weather warnings to take essential mitigating actions against environmental impact.

operates six worldwide solar observatories. The observatories are in diverse locations such as Italy, Australia, and Hawaii and view the sun through optical and radio telescopes.

The 50 WS database also contains information from a network of ground-based and space-based sensors, including sensors on Defense Meteorological Satellite Program (DMSP) and National Oceanic and Atmospheric Administration (NOAA) satellites.

Space forecasters also need data on the state of the ionosphere. This region of charged particles can degrade communication signals and hamper ballistic missile

tracking radars as they perform their early warning mission.

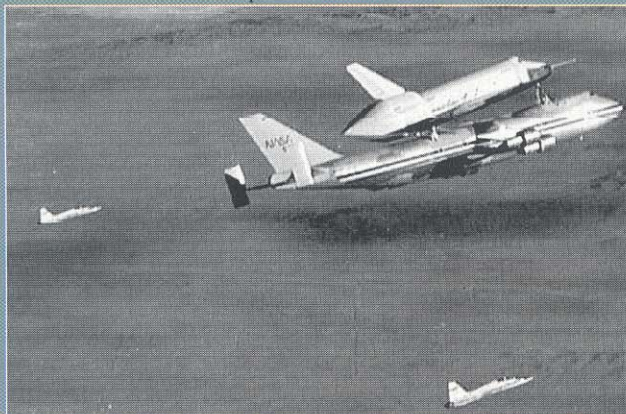
By using vertically pointed radars called ionosondes, the 50 WS determines conditions in the Ionosphere.

Special thanks to 1st Lt. Armstrong, Capt. Dave Biggar, Capt. Riley Jay, Capt. Jeff Powell, Capt. Mary Walker-Irvin, 1st Lt. Mark Wimmer, 1st Lt. Daniel Armstrong, TSgt. Jeffrey Marshall, the HQ AFSPC staff and all those who helped tell the AFSPC story in this feature.

Aviation's Most Weather Sensitive Flight Operation

"Weather makes the decision on where we're going to go and when we're going to get there."

One of the most unique duties an individual in AFSPC can



Digital photo courtesy NASA, via Internet

have is that of weather officer for the Space Shuttle Ferry Flight. In cases of inclement weather at Kennedy Space Center, the Space Shuttle will divert to Edwards AFB, CA. A modified B-747 is dispatched to retrieve the Shuttle for future launches at Cape Canaveral Air Station. A key member of the ferry team is the Air Force weather officer from the 45th Weather Squadron who rides on the "Pathfinder". This aircraft, usually a C-141, serves as the weather scout for the B-747 and Shuttle pair. The ferry flight mission faces many stringent weather restrictions; Daylight flight only, no flight through precipitation or visible moisture (no more than thin clouds), minimum air temperature of 15 F, no more than light turbulence, no more than scattered thunderstorms (must avoid them by at least 25 miles), and the landing crosswind component must be no more than 15 kts. The route must also be planned so the orbiter is not exposed to any severe weather on the ground. Weather support is vital to the safety of this \$8 billion national treasure.



Relocatable Window Model

A Contingency Support Tool

Col. Joseph Dushan
Commander

The Relocatable Window Model (RWM) is the Air Force Global Weather Central's regional and theater scale forecast model.

Although not as well known or widely available as the Nested Grid Model (NGM), the RWM has one-of-a-kind advanced physics capabilities which make model forecasts comparable to the NGM or NORAPS.

We can position an RWM contingency window anywhere on the globe (within ½ hour of notification), run the model, and make the new products available to field users through the AFGWC Dial-In Subsystem (AFDIS).

During Summer 1994, we ran contingency windows to support military operations in the Middle East, Rwanda, Haiti, and Korea. As of January 1995, we are running contingency windows for the Middle East and Korea.

We also run fixed windows over the CONUS, Europe, and Asia. The first contingency window is started about 2 hours after cycle time (e.g. 02Z, 14Z). Each RWM window takes approximately 45-60 minutes to produce a 36-hour forecast.

A numerical weather prediction model such as the RWM or NGM, uses the principles of conservation of momentum, mass, and energy to forecast basic meteorological variables. For example, changes in the wind components are dependent on advection, the coriolis force, pressure gradient forces, and approximations of frictional effects. Vertical motion is related to convergence and divergence. Moisture fields can be changed by advection, evaporation, condensation, and vertical motions. Although numerical approximations are not perfect, they quickly incorporate large amounts of data and portray many of the complex interactions between meteorological variables.

The RWM has been fully operational since December 1992, and since then we've made significant improvements in the analysis model and boundary layer physics.



The RWM uses AFGWC's Global Spectral Model (GSM) to provide a background field. Then the Relocatable Window Analysis Model searches the database for all observations (including RAOBs, surface observations, and NOAA and DMSP satellite soundings) in or near the window domain to produce a tailored analysis on the model grid.

In 1994, we improved the boundary layer physics by adding routines adapted from the Swedish Limited Area Model (SLAM). In addition to adding a diurnal cycle, it allows us to incorporate real-time inputs of snow/ice cover, surface temperature, and soil moisture from other AFGWC-unique models. All three of these inputs are high quality and improve the RWM's low level initialization, essential to accurately forecasting surface temperatures, initiation of convection, and precipitation type. The snow/ice cover data is being transmitted to the National Meteorological Center for use in their models, but the other two inputs are used only at AFGWC. The new capabilities enhance the RWM's forecast skill below 10,000 feet AGL.

The model is being run operationally with grid spacing as fine as 25 nautical miles, which is good enough to capture many orographic features. The low-level wind fields are strongly dependent on accurate depiction of the terrain. The RWM produces 36-hour forecasts, with output every 3 hours. This output is interpolated to the mandatory levels (except 925 mb) and is ready to be transmitted to the field. Some of the graphical RWM products currently available through AFDIS are standard horizontal maps on pressure surfaces and special products such as forecast Skew-T plots.

We would like to incorporate feedback from the field users to continue to refine the suite of products that are included in AFDIS. Because the RWM is relocatable in real-time, and the locations and priority of the contingency windows are determined by the constantly changing requirements of Air Force Weather, we are responsive to your needs!

Although contingency support takes precedence, RWM forecasts can also be requested to support exercises. Upgrades to the Advanced Weather Analysis and Prediction System (AWAPS) computer hardware in progress at AFGWC will soon allow us to run several windows simultaneously, improving the timeliness of the output.



Descriptive Climatologies

A powerful planning tool

Lt. Col. Jud Stailey
Commander

Climatological data like averages, extremes, and frequency distributions provide valuable information. But this type of data comes up short when we ask the question *"How does the weather work in this area?"*



To really prepare for both weather and flying operations we need descriptive climatologies. These products, produced in ETAC's Readiness Branch, are a combination of weather charts, satellite pictures, tables, and graphs which work together with text to explain the weather systems common to an area and the type of mission-impacting weather they produce.

We produce descriptive climatologies on three scales: subcontinent-sized regions (called "regional climatologies"), small areas (like countries or portions of countries), and points. We're writing regional climatologies to provide general planning information for most of the world. When events in an area suggest that planners need more detailed information, we are usually tasked to write a small area or country study. Finally, when an operator requires highly tailored information on a specific location, we write a point study. Here's where we stand today on descriptive climatologies:

REGIONAL CLIMATOLOGIES --

We expect to have seven of the eleven tasked regions completed by the end of this year. The accompanying map shows the regions for which climatologies are available.

SMALL AREA/COUNTRY STUDIES -- We have written about 45 of these in response to international events. See the block at the end of this article for a list of available studies.

POINT STUDIES -- We have completed studies for nearly 200 points. We normally don't produce these studies on speculation. However, based on availability of data and familiarity with the area, we can turn high priority point studies in less than a day.

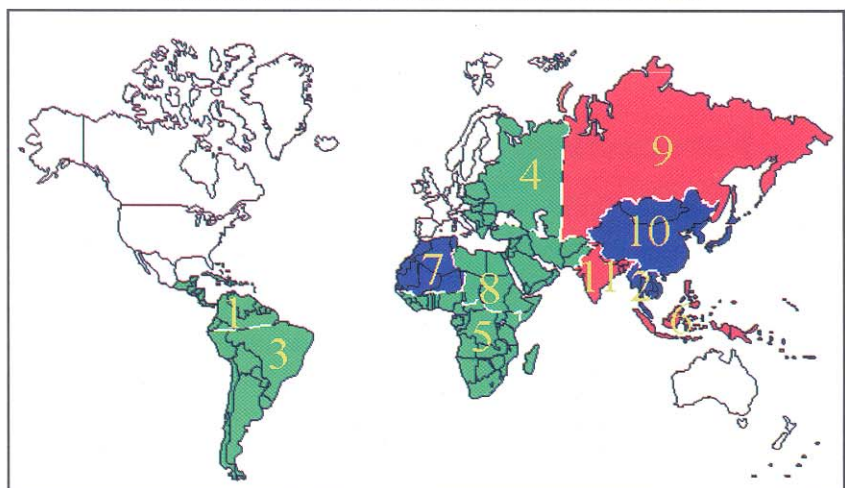
THAT'S WHAT WE DO. WHAT SHOULD YOU DO?

For regional climatologies: Make sure you have the studies for your areas of responsibility (if you're at an Air Force weather station, check your bookshelves—we sent you one). If you don't have what you need, contact the AWS Technical Library (DSN 576-5023, Commercial (618) 256-5023, or e-mail awstl@etacrs1.safb.af.mil).

For small area/country studies: Check the list. Most of these studies have not been published, so they were

See USAFETAC, continued on Page 22

TASKED REGIONAL CLIMATOLOGIES



- | | | |
|-------------------|-----------------------------------|---------------|
| 1 Caribbean | 5 Equatorial & Southern Africa | 9 Siberia |
| 2 Southeast Asia | 6 Western Pacific Basin | 10 East Asia |
| 3 South America | 7 Northwest Africa | 11 South Asia |
| 4 Eastern Europe | 8 Southwest Asia-Northeast Africa | |
| Green = Published | Blue = Working | Red = Future |



Meteorological Operations Capability Planning for the future

The future is never far away - especially in Future Weather Plans and Programs (XORR).

Air Weather Service is developing a concept to be its springboard for 21st century weather operations. The program to accomplish this is the Meteorological Operations Capability (MOC).

MOC will encompass the programs and systems already supporting forecasting and observing in fixed and tactical environments and develop systems to meet requirements not being met by the current infrastructure.

The goal of MOC is to support "train as you fight" by ensuring fixed and tactical systems have identical man-machine interfaces.

MOC also includes automated sensor data collection and quality control, improved forecasting capability, and improved communication capability.

The program will be divided along these functional lines:

Forecasting Software

The software functions of the Automated Weather Distribution System (AWDS), Tactical Forecast System (TFS), Integrated Meteorological System (IMETS), and the Small Tactical Terminal (STT) will be merged into a common AF/Army software suite with interoperability with Navy software as appropriate.

By accomplishing a baseline software version, weather craftsmen are assured

forecasting processes used while deployed are identical to those "back home".

The software will be maintained at the Weather Software Support Facility, to be located at Sacramento-Air Logistics Center, which will be responsible for software maintenance and enhancements, ensuring weather operations stay on the edge of technology.

Computer Hardware

The computer platform for the AWDS will be modified in the next few years to the Sparc workstation environment.

Eventually, the AWDS and STT will be upgraded to the "Air Force Standard Workstation". The TFS and the upgraded Quick Reaction Communications Terminal (QRCT) are currently planned to operate on the standard workstation when fielded.

Once the standard workstation is used universally in weather operations, the MOC program will provide incremental upgrades to the hardware as the Air Force keeps up with technology.

Sensors

Sensors fall under the broad categories of fixed base and tactical. The fixed base sensors, such as the runway visual range computer, temperature/dewpoint sensor, digital wind sensor, etc., will undergo upgrades to integrate their output onto one of the workstations.

NEXRAD systems will be modified in conjunction with the National

Weather Service (NWS) to stay current with evolving technology. The development and fielding of new sensors (low-level wind shear, standardized lightning detector, etc.) is contained in the MOC concept.

A study is planned to investigate whether the Automated Surface Observing System (ASOS) used by the NWS will satisfy Air Force requirements or if evolving Air Force Weather capabilities is the better approach. Tactical sensors, such as the Tactical Cloud Height Detector, Tactical Meteorological Observing System, and the Tactical Wind Sensor, will be modified with a goal to house them in a single case.

Upgrades for fixed and tactical sensors will be a continuous process to allow weather personnel the best capability available.

The MOC program encompasses everything Air Force Weather folks use and do, providing future technological improvements to give "America's combat force the Winning Edge".

MISSION

Plan, program and identify the best technology available to put into Air Force Weather equipment acquisition programs. Ensure AFW people have the right mix of initial and recurring training to meet customers' current and future deployed and in-garrison weather product needs.



NEXRAD

Update on the WSR-88D

Many Air Force Weather units can now take advantage of the improved severe weather analysis capabilities of the WSR-88D.

Delivery and installation of the WSR-88D began in May 1990, and to date 117, or 72 percent of the systems, are operating throughout the continental United States, Alaska, Hawaii, and Guam.

The Air Force has 23 of the 30 (77 percent) we're scheduled to get. Having delivered 325 Principle User Positions (PUPs), the program has reached 80 percent of that total. The installations will continue through the summer of 1996 when the last radar is installed at Beale AFB, Calif.

The nation will have 162 WSR-88Ds operating with 407 PUPs serving various weather offices.

As we move into the operational support phase of the program we will continually strive to improve the system.

Software build 8.0 currently under test by the Next Generation Radar (NEXRAD) Operational Support (OSF) Facility incorporated 143 changes including many corrections to problems and enhancements you have identified through calls to the OSF. We expect release to units beginning in mid-April 1995.

Part of the upgrade is a new PUP function, VR/Sheer Display, that will

provide a graphic measure of horizontal wind shear between any two points selected by the operator on any base velocity product. You can use VR/Sheer Display to investigate strong circulations associated with meso-cyclones at any elevation scan.

Another Build 8.0 improvement is a Unit Control Position (UCP) change that allows forecasters to lower the pulse repetition frequency (PRF) of the transmitter. This will decrease the range folding problem associated with Doppler radars.

The Build 8.0 software is also going to support the Archive Level II data collection and the "Jukebox" data-tape recorder. Level II will store digital data from the RDA that will be sent to the National Climatic Data Center for research. The OSF began shipping the Archive Level II kits and TCTOs to the WSR-88D maintenance activities at the end of February.

Headquarters Air Weather Ser-

vice has also submitted a Configuration Change Request (CCR) to the OSF to connect a remote terminal to a PUP - the remote display would be the same as the PUP display.

If approved, it will allow units to "T" off the PUP display and cable to the remote. We've also asked for certification of computer equipment that can be linked to the PUP that would automatically send a user-predetermined menu of data to remote terminals.

MISSION

Provide standard systems management for USAF meteorological equipment, weather center computer hardware and software, and long-haul communications.

Two vendors, UNISYS and Marta Corporation, have developed prototype equipment for testing at the OSF, but certification hasn't been given.

If you have a need for one of these remote displays, you should know that they're unit funded, installed, and maintained.

We will pass out additional information as soon as the OSF completes their certification process.

In closing, we've heard from a couple of units that the HQ AWS NEXRAD Program is finished following the last installation in 1996.

That's not true! The program will still have the tri-agency support throughout the operational support phase - there will be maintenance, logistics issues, and system improvements as long as we use the radars.

We at HQ AWS will remain involved ensuring your radars and PUPs provide effective results to support Air Force Weather operations.

If you're interested in the latest information about NEXRAD, the Air Force Weather Bulletin Board System (BBS) has a NEXRAD library. One of the items is a list of accepted radars (if you need access to a radar, please contact the OSF). There's also the latest installation schedule for the entire program.



Where we fit in



The leader in weather communications

Col. George Yurchak, Jr.

*Director, Automated
Communications Systems
38th Engineering Installation Wing
Tinker AFB, Okla.*

For more than 30 years, the 38th Engineering Installation Wing's Automated Communications Systems Directorate (38 EIW/SD) has been a leader in the world of telecommunications. Our 350 people support over 40 different communications-oriented systems with a state-of-the-art software development and maintenance test bed and experienced program management teams and trouble-shooting analysts to work directly with our customers on full life-cycle support of hardware, software, and vendor support services.

So how do we fit in a weather magazine? We also function as the Standard Systems Manager for Air Force Global Weather Communications. To accomplish our weather communications mission, SD utilizes the peerless services of the Flight Services Division (SDF).

Within SDF, total life-cycle management for worldwide computer controlled weather communications systems and software support is provided by three unique branches: the Automated Weather Network (AWN) Management Branch (SDFC), the Weather Management Branch (SDFM), and the Automated Weather Networks Branch (SDFW).

In SDFC, the day-to-day real-time operational management of the AWN and the Global Weather Intercept Program (GWIP) communications

operations are supported. Their primary mission is to provide rapid transmissions of intercepted foreign source weather data to the Automatic Digital Weather Switch (AWDS) where it is then routed through to Air Force Global Weather Central (AFGWC).

Our SDFM serves as the standard computer systems manager for all operational Air Force Weather Communications Systems (WCS). From performing long range life-cycle planning to validating weather communications requirements, SDFM is the leader in total life-cycle management for long-haul weather communications.

Through SDFW, we manage the development, implementation, maintenance, and modification of automated telecommunications software in support of the Automatic Digital Weather Switches (ADWS), the AWN Communications Program (AWNCOM), the Weather Intercept Control Units (WICU), and the Weather Graphics Switch (WGS). SDFW also manages Operating Location A at Offutt AFB, Neb., which has day-to-day software responsibility for the Communications Front End Processor (CFEP).

To sum it all up, 38 EIW/SD is the leader in systems solutions within the Air Force. SDF possesses the knowledge and experience necessary to solve weather communications and software problems. Our dedicated team stands ready to meet the needs of our worldwide customers and this is why we fit in a weather magazine.

SDF WEATHER COMMUNICATIONS FUNCTIONAL AREAS

- SDFC: AWN Management Branch**
- Automated Weather Network, (AWN)
 - Global Weather Intercept Program (GWIP)
- SDFM: Weather Management Branch**
- South American Weather Data Contract (SAWD)
 - Air Force Digital Graphics System (AFDIGS)
 - Air Force Global Weather Dial-in Subsystem (AFDIS)
 - Data sharing between AFGWC and FNMOC (NAVAF)
 - Weather Communications Systems (WCS) Upgrade
 - Global Weather Intercept Program (GWIP) Realignment
 - Weather Intercept Control Unit - Replacement (WICU-R)
 - Commercial Satellite Communications Initiative (CSCI)
 - Automatic Digital Weather Switch (ADWS)
 - Communications Front End Processor (CFEP)
 - Weather Graphics Switch (WGS)
 - Automated Digital Facsimile System (ADFS)
 - Combat Weather Systems (CWS)
 - Meteorological Satellite Receiver Program (MSRP) (GOES Looper)
 - Meteorological Data System (MEDS)
- SDFW: Automated Weather Networks Branch**
- Weather Intercept Control Unit (WICU)
 - Weather Edit Software
 - Automated Weather Network Communications (AWNCOM)
 - Weather Information Display System (WINDS)
 - Combat Weather Systems (CWS)

ANG Weather Officer Opening

The 122nd Weather Flight, Louisiana Air National Guard, has an opening for a weather officer up to the rank of lieutenant colonel.

Resumes can be sent to Lt. Col. Kerry Bartels, 2625 Spring Ridge Dr., Biloxi, Miss. 39531. For more information call DSN 597-0205 (CMCL 601-377-0205) or DSN 457-8424 (CMCL 504-391-6424).

AN/FMQ-8 Fix Coming Summer 1995

A new AN/FMQ-8 dew point sensor is on the way. The temperature/dew point measuring set modification replaces the current chilled mirror technology with a polymer capacitance relative humidity sensor.

With the new sensor, dew point temperature is calculated from relative humidity and temperature measurements as opposed to direct measurement. The new sensor will correct operational deficiencies noted with the current sensor - such as inaccurate readings when the dew point temperature is near freezing and in hot, dry, and dusty climates - and significantly improve its reliability and maintainability.

ARINC Research Corporation, the modification contractor, developed five rough model sensors which were field tested in April 1994 at Davis Monthan, K.I. Sawyer, Scott, Tinker, and Tyndall AFBs.

Since that time, the modified sensors have performed magnificently under environmental conditions where the current sensor has known problems. The only outage, which occurred in January 1995, was due to a faulty resistor in the aspirator assembly and not the new sensor.

The modified AN/FMQ-8 has also passed extensive environmental chamber testing. In December 1994, AWS authorized the operational use of

the modified sensors at the five sites.

AWS and SM-ALC are working together to ensure the AN/FMQ-8 modification is fielded as soon as possible.

Air Weather Service has obtained MAJCOM concurrence on a fielding schedule for the modification. SM-ALC is in the process of ordering the parts required to build the modification kits. SM-ALC will build all kits and conduct kit proofing prior to fielding of the modification.

The modification will be accomplished by Time Compliance Technical Order (TCTO), which will be distributed to all AN/FMQ-8 sites this summer for installation by each unit.

For more information on the modification, contact 2nd Lt. Jahna Schadt at DSN 576-3268, ext 308, or e-mail "schadt@hqaws.safb.af.mil".

AWS Support to the Space Warfare Center

Operating Location S, Headquarters Air Weather Service, was activated April 1 at the Space Warfare Center (SWC), Falcon AFB, Colo. The two people assigned to OL-S will provide support in environmental modeling, warfighting simulations, and Air Force exploitation of National Capabilities (TENCAP) initiatives.

One of the people assigned is a captain with an advanced degree in modeling. This officer will work directly with the SWC Analysis and Engineering Directorate modeling space systems and architecture to assess their impact on the warfighting environment.

The other person is a civilian, who will work in the Operations Directorate developing and managing the majority of SWC and TENCAP programs. This individual will interface with Air Force Global Weather Central a great deal and help develop AFGWC products for the warfighter.

AFGWC's Samaritan Award Recognizes Teams Helping Teams

"Quality Air Force", according to the Air Force Quality Center, is a "leadership commitment and operating style that inspires trust, teamwork, and continuous improvement everywhere in the Air Force."

Air Force Global Weather Central, Offutt AFB, Neb., recently created the Samaritan Award to recognize teamwork among its work centers. Based on the biblical parable of the Good Samaritan, the principle of the award is teams helping teams.

The award consists of a travelling trophy which resides in the particular work center, and a permanent plaque displayed in AFGWC's Heritage Hall. The concept is simple -- the current holder of the award chooses the work center in another division which has been the most helpful in enabling them to accomplish their mission.

In June 1994, the Flight Hazards Forecast work center selected the Systems Division's Data Decode and Validation shop as the team most responsible for the success of Flight Hazards' mission to forecast aircraft icing and disturbance hazards across the U.S. Data Decode and Validation selected the Weather Communications work center for the Samaritan Award in October 1994.

"The Samaritan Award recognizes the value of teamwork and fosters an atmosphere of cooperation," said Col. Joseph D. Dushan, AFGWC commander. "It is only by teams helping other teams that we can accomplish our mission. The Samaritan Award is another way AFGWC is promoting quality in its day-to-day operations."

*See "Oh, By The Way,
continued on Page 22*



not distributed to all weather stations.

However, if you have responsibilities in a country or area covered, contact the AWS Tech Library for a copy.

For Point Studies: If you have operational requirements for a study on a particular point, contact Mr Walters at DSN 576-3465 (secure or non-secure) or e-mail dojkrw@thunder.safb.af.mil.

We'll send you a list of available point studies. If none of those meet your needs, we'll arrange to complete new studies as resources are available.

Completed Small Areas/Country Studies

Albania	Montenegro
Algeria	Nigeria
Arctic Norway	North Korea
Bangui	Northeast Spain
Bangladesh	Panama
Belgium	Persian Gulf Region
Bosnia/Herzegovina	Peru
Burma	Rwanda/Burundi
Central Am Flying Wx	Sardinia
Central Bolivia	Somalia
Columbia	South Korea
Cuba	Southern Baltic Sea
Cyprus	Southwest Norway
Denmark	Sri Lanka
Ethiopia	Tajikistan
Georgian Republic	Tanzania
Grand Cayman Island	The Transcaucusus
Horn of Africa, Ex Smry	Turkey
Iran	United Arab Republics
Kamchatka	Venezuela
Madagascar	Yugoslavia, Ex Smry
Mexico	Zimbabwe

"Oh, By The Way", continued from page 21

COMEDS Tips

Remember the old, black COMEDS that was maintained by Western Union? Whatever happened to that hunk of hardware?

When the Automated Weather Distribution System was installed, most weather stations turned it in along with the facsimile machine! However, a few stations with unique missions, or those which haven't received an AWDS, maintain it as a primary communications tool.

The good news is COMEDS has been upgraded and now runs on a 386 PC. It has other upgrades as well, such as recallable memory and graphics. You can plot Skew-Ts, surface and upper air charts, overlay grids, and more. This allows the systems to act as a "poor man's AWDS" (it has limited forecasting ability -- mostly analysis).

The COMEDS has 12 frames available for graphics displays. All displays are generated from data

stored in the computer's hard drive.

The computer doesn't act as the old COMEDS did, it holds all the data in its hard drive as prescribed by your data requirements and the bulletin filing criteria you define in the supervisor function area.

The installation software loads a comprehensive list of stations and defaults them to provide data for the plots. This can be adjusted by the user. The first five frames are dedicated and cannot be changed. They are used to display Skew-Ts, DOT plots (similar to HWD, two frames), and RAREPS (two frames). The remaining six frames are called scratch frames. The user defines the base map (six available), then generate isopleths or other displays. Try a sample chart by following these steps:

1. Hit "F2".
2. Type "C US 5" and "ENTER".
3. Type "GI" and hit "ENTER".
4. Type "PRES", "ENTER", time of data, ex. "18".

5. Hit "+" from the number pad.

6. Type "IS 5 PRES 18" (time of data in two digits), hit "ENTER".

7. Type "D 5", and hit "ENTER".

At this point, you should have generated a U.S. map with a pressure analysis on scratch frame five. You can repeat the steps for different criteria by following steps 3-7 and change "PRES" to "TEMP" (add to step four: hit "ENTER" until you reach the "default color" and enter "R", then go to step five).

For the complete instructions, refer to the Contel Meteorologist Workstation (CMW) User manual, section 4.4, page 4-26.

Any other questions can be referred to TSgt. Doug Rishel, Headquarters Air Weather Service Technology Training Division (XOT), DSN 576-4721 and electronic mail address "rishel@hqaws.safb.af.mil".

HQ AWS/XOT plans to release a COMEDS quick reference guide in the near future.

Weather Heritage

Got a "war story" you'd like to share with some of the current active duty "youngsters"?

The *OBSERVER* editorial staff is interested in publishing your personal experiences while serving as or with weather specialists in the U.S. Army Signal Corps/U.S. Army Air Forces/U.S. Air Force with the Air Weather Service.

Young -- and not-so-young -- active duty Air Force Weather personnel enjoy meeting and talking with some of their predecessors. We would like to create a forum to share your perspective or personal account of an historical event.



Your comments don't have to be detailed or lengthy, in fact a page-and-a-half of double-spaced typing will fill the page. If you have an interesting, high-quality photo (black and white or color), send it along and we'll send it back after the story is published.

So, if you would like to contribute or for more information, please write, fax, or e-mail the *OBSERVER* at:

HQ AWS/RMA

Attn: SSgt. Steve Elliott

102 W. Losey St., Rm. 105

Scott AFB, IL 62225-5206

FAX: DSN 576-6306/2417

CMCL (618)256-6306/2417

E-MAIL: elliott@hqaws.safb.af.mil

What's next?

What's going to be in the May 1995 edition of the "Observer"? How about June?

Here's a partial list of stories and subjects you can expect in the coming months:

May: Air Force Materiel Command spotlight; photos from FORECAST CHALLENGE '95 at Hurlburt Field, Fla.

June: Air Education and Training Command spotlight; Air Weather Service change of command.

Weather Weenies by SrA Steve Plater

