

# Orienteor

Defense Mapping Agency Aerospace Center

December 7, 1990

More on  
FY 90  
Production

Pages 4-10

CFC Project Officer  
Kelly Fitzgerald  
reports campaign  
results at the Direc-  
tor's staff meeting.

Photo by  
Jim Stepanik



## CFC: Employees 'Come Through' With \$223,112

**E**ven though we had such a hard year, in the end they (employees) came through," said Kelly Fitzgerald, project officer for the Combined Federal Campaign, commenting on this year's goal-topping gift total of \$223,112. (The total does not include confidential contributions.) Employees showed that "the drive that's within us to make it better for the group is intact."

Final statistics revealed an average CFC gift of \$119.30, which was--remarkably--8.3 percent more than last year's average gift. Such generosity enabled employees of DMA in St. Louis to top a campaign goal of \$210,000 even though participation dipped to 60.4 percent of the work force, compared to 64 percent last year and 66 percent in 1988.

DMA will receive an Honor Award from the East-West Gateway Combined Federal Campaign at a lunch-

eon today at the Holiday Inn in Clayton. The award is given to agencies that achieve a certain level of contributions compared to their "potential," as determined by the average hourly wage of all employees for one pay period per month. "We are also in the running for achieving the highest potential of any agency in our size category," Fitzgerald said. Key workers have been celebrating the success of this year's CFC with parties at the department level.

Despite the usual problems associated with telling the CFC story and canvassing more than 3,000 employees, this year's campaign was confronted with a complicated reorganization that defied planning.

"We had no choice but to delay the campaign until after Oct. 1 (the date of the reorganization)," said Fitzgerald, "so we got started late. Tracking people was still a problem; for

example, the Telecommunications Services Center expanded ten-fold during the campaign, while their department manager was sidelined by a serious illness." Due to the demands of Desert Shield, attendance at CFC rallies was also down. Sometimes even scheduling a rally was a problem as shifts had to be adjusted and personnel detailed to meet the emergency. On top of the extra work came the threat of furloughs (sic), due to the budget situation.

"Given these circumstances, nobody would have not understood if we didn't make our goal," said Kelly. "I wasn't going to take it personally either way. What we did was to present some information. The people made their decision, and they deserve our thanks and admiration."

Anyone who pledged at least \$3 per pay period (total \$78) is entitled to

Continued on page 2.

# Direct Line

## A Great Year

**F**ISCAL YEAR 1990 was one of our best in terms of meeting our goals. In DMA, this is not unusual, but this year was especially noteworthy. Not only did we exceed last year's total program effort but we did it despite some significant unplanned events.

For example, operations JUST CAUSE in Panama and DESERT SHIELD in the Middle East. Neither was anticipated in our production programming, but we have demonstrably increased our production output. Counter-narcotics is another example of a program which gained in scope of work and national emphasis.

**WE ADJUSTED** manpower and production programming to meet these special requirements while at the same time continuing to provide high priority products and services to other customers. I would add, in the case of Operation DESERT SHIELD, we continue to adjust and readjust to meet the needs of deployed forces.

Fiscal year 1990 saw our mapping and charting programs--aeronautical, hydrographic and topographic--exceed the previous year's by 20 percent. Over 3,000



**From  
Maj. Gen.  
William K.  
James,  
Director,  
Defense  
Mapping  
Agency**

products were produced and over 70 million copies printed. The digital program exceeded last year's by 60 percent with more than 7,000 products delivered. Points, which make up the third segment of the major production program breakout, increased by 25 percent. That is great work by any measure of merit.

**EVERY EMPLOYEE** can take pride in our accomplishments, but as we reflect on our success, let's endeavor to make fiscal year 1991 even better. The nation's combat forces are depending on us.



### Piped Ashore

Photo by Jim Stepanik

Captain Robert F. Brough walks "ashore" to the piping of Boatswain's Mate Third Class Shawn Wheeler (not pictured) of the Naval Reserve Center of St. Louis, as he completes his Naval career of 27 years Nov. 30. Captain Brough was awarded the Defense Superior Service Medal as AC Deputy Director for Plans and Requirements for "his efforts that proved indispensable in ensuring that highly sophisticated, critically needed cartographic products were available to meet the requirements of advanced weapon systems in our nation's aerospace forces." A pilot with 500 carrier-arrested landings, Captain Brough was skipper of the Topcats, the squadron deployed to the Indian Ocean on the USS Eisenhower for 152 days during the Iranian hostage crisis.

### Hail & Farewell

Captain Robert F. Brough retired from the Navy Nov. 30.

Major M. Jain Feldman departs Jan. 7 for duty at Mather AFB, Calif.

Major Patrick S. Kallaus departs Jan. 7 for duty at McClellan AFB, Calif.

Lieutenant Martin E. Staples separates from the Navy Jan. 14.

Senior MSGt. Walter Duncan departs Jan. 23 for reassignment to Sembach AB, Germany.

### ...CFC

Continued from page one.

receive a CFC sport bottle. "If you did not get yours, call the CFC office at 4457. The office will be open through Dec. 14.

Certificates are being awarded for leadership giving in three categories: Bronze (\$260-\$499), Silver (\$500-\$999) and Gold (\$1,000 or more). A total of 332 employees were Leadership givers this year.

## Kolnik Boosts Tally

# Old Newsboys Top \$1200

November 15 was not a bad day to stand around collecting money for needy children in the bi-state area. It was one of the mildest mornings on record for that date.

The *Orienter* reported a tally of \$1,088 in the last issue, but the figure rose to \$1,253.14 as dollars trickled in later and then came a bonanza of \$57 from retired DMAAC'er Bob Kolnik. He stood at his usual corner on Kings-highway and Fyler. Thanks, Bob!

At 2nd Street, Henry Bauer must have been standing in the right place at the right time; he collected the highest total there--\$183. At South Annex, the good morning news came from Virginia Welter, whose top tally was \$135.

Hawking a special edition of the suburban *Journal*, Old Newsboys raise hundreds of thousands of dollars every year to buy needed items for children's agencies, everything from toys to wheelchairs.

## **Orienter**

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AC Director Col. Marcus J. Boyle accepts an award recognizing the Aerospace Center's achievement in seat belt usage from Norm McPherson, regional director for the National Highway Traffic Safety Administration.

# DMAAC Wins 70% + Award For Using Seat Belts

**D**MAAC is one of six government agencies and business organizations in Missouri to receive the "70 percent + Honor Roll" award for achievement in reaching more than 70 percent safety belt use. The award is presented by the National Highway Traffic Safety Administration (NHTSA) in support of President Bush's objective of reaching 70 percent safety belt use by 1992.

"Your efforts to save lives are most commendable," said Nathan B. Walker, director of the Missouri Division of Highway Safety, in a letter to Ernest Peters Jr., safety manager at DMAAC. "Your organization has set an example

for other communities, organizations and individuals to follow. Your leadership is the key to a safer future for all."

Early in FY90 several seat belt surveys were randomly conducted by the Safety Office to determine seat belt usage by employees at DMAAC. The average usage found was between 64 and 67 percent. AC participated in

Buckle Up America Week May 21-28 by publicizing the importance of wearing seat belts through handouts to employees and discussions at staff meetings.

Random seat belt surveys were conducted by the Safety Office on June 20 and July 20. The average seat belt usage was 73 percent on June 20 and 76 percent on July 20. This indicated about a 10 percent increase from prior seat belt surveys.

On Nov. 20 Norm McPherson, regional director for the National Highway Traffic Safety Administration (NHTSA), and Jim Green, program director for Missouri, presented NHTSA'S 70

percent + Honor Roll award for seat belt usage to the Aerospace Center.

Also receiving the award in Missouri were the Columbia and Kansas City police departments, the Army Engineering Center headquarters at Fort Leonard Wood, the City of Maryland Heights, and Hallmark Cards, Inc.

# Stay Alive

## In Sympathy

**John C. Reisner**, chief of the Financial Systems Branch (CMFSS), died Nov. 17 of a heart attack at age 45. Although he had suffered a heart attack last spring, his death was



unexpected, co-workers said. He had been at work the day before his death. His federal service totaled 21 years, including nine with DMA in St. Louis. Mr. Reisner leaves his wife Shirley and three sons. Interment was in Jefferson Barracks National Cemetery.

**Roberta Lee Evans**, 46, died Nov. 25 hours after she was struck by a car while trying to help an injured dog at Telegraph and England Town Roads in Oakville, Mo. She was a



secretary with the Defense Investigative Service at 8900 S. Broadway. She leaves her husband Joseph, a stepdaughter and two stepsons. Interment was in Waterloo, Ill.

**Charles R. Howard** died Nov. 19. Inducted into the Army at Jefferson Barracks in 1943, he served at Wright Field, Ohio; in 1944 he was among the crew that took a B-29 to Washington, D.C., for its first public showing. He began work at the Aeronautical Chart Plant, forerunner of DMAAC, in 1948. He was the first employee to receive the Air Force Meritorious Civilian Service Award. When he retired in 1977, he was as a cartographer in Plans and Requirements. Mr. Howard leaves his wife Merle, daughter Army Lt. Col. Joyce Howard, and son Charles F. Interment was in Jefferson Barracks National Cemetery.

**Eulah M. McNulty** died Nov. 20. A cartographic clerk in the data bank library when she retired in January 1973, she worked at DMAAC for 20 years. She leaves her husband Thomas, nephew Thomas Tolle (DSMCC) and his wife Georgia Tolle (DSCBAB).

## FY 90 Operations...

This issue of the *Orienteer* continues the story of AC's FY 90 production. The December 21st *Orienteer* will complete the summary of activities with articles from DS, SO, HR and AQ. There will also be an article on aeronautical information products.

--Dennis Drum/PPI

### FY 90 IN GA

You may wonder why FY 90 is being singled out for "production success stories." For those who work in the Graphic Arts Dept. (GA), one year is not unlike any other; with the fiscal-year program to be met and the Joint Chiefs of Staff (JCS) Single Integrated Operations Plan (SIOP) annual exercise production, GA personnel are accustomed to the hectic pace required to keep products moving out the door. However, several unique factors came into play in FY 90 which set the year apart.

In addition to our normal production, the SIOP requirement increased from 289 charts to 308 with no extra time allowed for completion. Even so, GA completed all SIOP charts on or ahead of schedule.

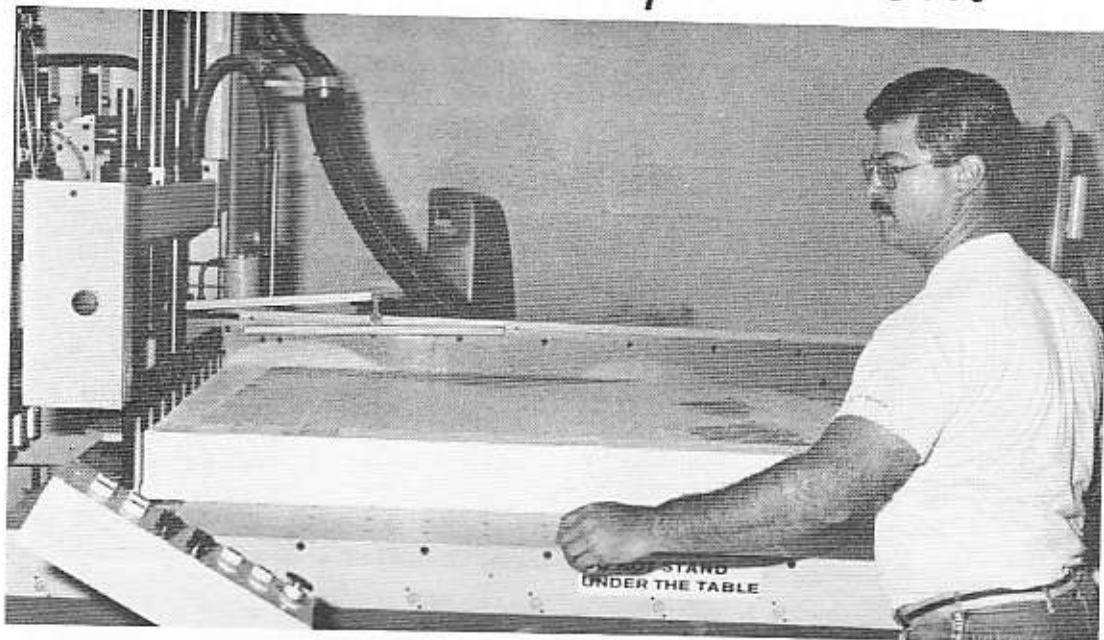
During SIOP production, the Counternarcotics (CN) Program hit GA. Because of the work load in GA, color separations of CN products were sent out on contract. Due to the critical need to provide users with a product as quickly as possible, our normal production pipeline was shortened from 120 to 90 days. This allowed our Negative Engraving Division (GAN) eight calendar days to estimate and prepare a chart for contracting. The GA Contracting and Quality Assurance Office (GAC) in cooperation with the Directorate of Acquisitions (AQ) initiated weekly contractor reviews versus the normal bimonthly reviews. Contractors were also allowed to fax their bids so AQ could award the contract the next day. This cut the normal contract time in half. Upon the return of CN charts from the contractor, GAN was required to review, correct and release the charts for reproduction in 11

calendar days. MC provided GA with 10 cartographers to assist in performing the acceptance/rejection reviews, which allowed GAN inspectors to concentrate on the final ready-for-reproduction reviews.

And so the CN program was off to a flying start in GA. However, it soon became apparent that even utilizing the already-compressed pipeline, the users were not receiving products soon enough. GA proposed an innovative concept to alleviate this problem--Manuscript Printing. GA suggested that a product could be provided to the user in just seven days (versus 90) by shooting negatives of the manuscripts provided by MC, having GA's negative engravers clarify the information on the drawn product, performing pasteup as required, and printing an interim line map from the negatives. This would provide the user with an interim product until the final product could be completed. The idea was adopted and Manuscript Printing went into effect.

As if coping with FY 90 program completions, SIOP printing and CN weren't enough, Operation Desert Shield hit with full force. The requirements were so great that GA initiated a plate, press and finishing contract to support our in-house production. GA also began seven-days-a-week, 24-hours-a-day (three-shift) operation. Employees postponed vacations and many pressroom and bindery employees worked up to 46 consecutive days! Our plateroom employees prepared specifications and instructions for the platemaking, printing and finishing contract. One plateroom employee went TDY for one week to contractor facilities in Washington, D.C., to make press and finishing approvals. Our plateroom, pressroom, bindery, and negative engraver employees were available 24 hours a day to the five local contractors to answer questions and make on-site press and finishing approvals, all the while continuing to dedicate themselves to our in-house production crunch. Fifteen GA employees made 86 contractor on-site inspections during the September Desert Shield production period; 31 of these inspec-

## ...A Proud Accomplishment



Ken Whitlow operates an automatic paper handling system, which loads paper for trimming, in the Graphic Arts Department's Bindery Division.

Photo by Jim Stepanik

tions were performed by one GA supervisor during his non-scheduled tour of duty. To provide the manpower required, GA temporarily promoted some press room employees to operate available equipment for peak production on the three-shift operation. Retired GA employees were also utilized as rehired annuitants. Three System Center (SC) Press Mechanics familiar with the press room production operation volunteered to fill out press crews. MC also provided GA with cartographers awaiting clearances to work in such areas as the bindery and plateroom.

At the end of FY 90 the production count for Desert Shield was 8,200,000 copies of 328 maps and charts produced by the contractor and 5,988,000 copies of 386 maps/charts produced in-house. Laid end to end, these products would stretch more than 6,500 miles!

The GA warehouse employees were responsible for assembling all in-house and contractor Desert Shield products into single shipments to the three distribution locations. Two employees in the Production Support Office (GAM), who specialize in transportation, were provided with beepers and placed on 24-hour call to ensure the movement of products and production-related materials.

Operation Desert Shield challenged

GA to create new production techniques to meet the urgent demand for products. Two of these innovative techniques played a significant role in the successful completion of GA's Desert Shield requirement: lithographic reproduction of Gridded Photos and an abbreviated method of producing Escape and Evasion Charts.

GA produced lithos of gridded photos supplied by the Scientific Data Dept. utilizing the Random Microlenticular (RML) Screen Printing Process. Utilization of the RML process allowed us to generate a nearly replicate, continuous-tone, photo-print image by the more expedient lithographic reproduction method versus the normal time-consuming photographic reproduction method.

One of the first products required for Desert Shield was the Escape and Evasion Chart. EVC's are complicated special-requirement charts, and GA had programmed only nine for completion in FY 90. The normal production pipeline for completion of an EVC is 500 hours. The pipeline for Desert Shield EVC's was shortened to 72 hours for the initial three EVC's. To satisfy this demand, GA suggested an abbreviated EVC using two base colors versus the normal five colors. This enabled GA to complete 19 Desert Shield EVC's! A tremendous amount of assistance in the completion of the

EVC's was provided by SMSgt. Bruce Johnson and his staff from AFIA in Fort Belvoir, Virginia.

FY 90 was a year of unexpectedly urgent and massive printing requirements for the Graphic Arts Dept. Through creative innovations in production techniques, non-stop 24-hours-a-day production, expeditious contracting activities, and unequalled cooperative spirit, personal sacrifice, and the commitment of *each* GA employee, the fiscal year challenges issued to GA were met.

--Linda White/GAC

### **FY 90: A YEAR OF SUCCESSFULLY MET CHALLENGES IN SD**

Fiscal Year 1990 for the Scientific Data Dept. (SD) was characterized as one of daily crisis projects, constantly changing priorities, overtime, and struggles to meet very tight due dates. In other words, Counternarcotics and Desert Shield hit hard. Nearly every person in SD was involved to some degree in these vital programs and made some sacrifices in order to keep production running.

In support of the Counternarcotics effort, SDA produced source packages for 1,542 airfields, 291 1:100,000 Tactical Land Mass Charts, 74 JOGs,

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# FY 90 Operations...

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and 22 TPCs/ONCs. Hundreds of feasibility studies were performed. SDR produced 18,815 photo products. SDE and SDF cartographers generated control for many of the charts produced by MC. They encountered complex technical problems, as well as source problems, which required solutions. As one SDE cartographer stated, "Initially we were given the task of generating control from photo scenes, and we had to devise a method and job flow to derive control." The resulting methodology was so effective that SDE was asked to brief Systems Center and the Hydrographic Topographic Center (DMAHTC). As Counternarcotics assignments were received, SD personnel worked hard to produce them within the tight time constraints required, sometimes completing jobs within double- or even triple-compressed time frames.

Desert Shield required, and continues to require, an even larger effort on SD's part. Alerting pyramids were activated and SD personnel were placed on call around the clock. One SDE cartographer accurately described the situation. "The initial weekend when crisis support became necessary, 25 percent of the personnel were off due to compressed work schedules. Alerting pyramids were employed to recall a battery of personnel to perform the initial job requirements. SD personnel worked a three-shift, seven-day week operation to complete the initial assignments. Requirements continued to be received, and typically, these assignments were received mid to late on each Friday day shift. Timely work schedules had to be created in each case. In several instances, crisis support program managers were attempting to schedule personnel as quitting time on Friday passed by."

There was never a shortage of SD personnel willing to set aside their own personal plans to respond to the crisis. Their efforts were tremendous, and the amount of work produced was staggering. During a six-week period in August and early September, SDA personnel reviewed 234 charts for



Operating the Analytical Point Positioning System above is Patty Drury (SDE). At right, Ward Webster (SDF) scans a photographic negative on the Point Graphics Production System. Digitally reproduced images of the negatives appear on the screen in the background. Cartographers in SDE and SDF generate control for chart products.

currency and produced source packages for one DTED cell, 15 JOGs, five AT200s, 1,997 airfields, 60 TERCOM sites, 84 Interim Terrain Data jobs and eight 1:50,000 FE charts. In addition, source analyses and feasibility studies were performed for 400 charts, 30 TERCOM sites, and 362 point targets. Vertical obstruction data over all chart areas was reviewed and updated, and 60,000 pages of TINT/CID information were queried in support of chart production in the Mapping and Charting Dept.

During that same six-week period, SDE produced control for numerous TERCOM sites and one DTED site. Parts of four existing PPDB's were combined to form a new PPDB, and numerous data cartridges and tapes of PPDB products were generated and shipped to users. SDR generated a record 325,000 photo products. SDF produced 1,064 point targets and 63 gridded products.

Praising SDF's efforts, Col. Richard M. Hasbrouck III wrote in a letter to General James, "The support which SAC has received has been outstand-



ing. The personnel who are involved with this effort were tasked on extremely short notice, late in the day, to produce mission-critical coordinate information and gridded airfield products. In response, they performed without hesitation ... and turned out the required high-quality products all within the tight time constraints (sometimes as short as 24 hours) levied upon them." Colonel Hasbrouck also wrote, "All DMAAC personnel involved with this effort should be commended for their premium support during this crisis." Although Desert Shield and counternarcotics greatly impacted FY 90 production, SD was able to meet and in many cases exceed routine production goals.

# ...A Proud Accomplishment

The dedicated, highly professional work force that is SD played a significant role in a very successful fiscal year at DMA. They have truly made a vital contribution to our nation's defense.

--Stephanie Moses and  
Dean Lakeman with contributions  
by Don Gardner and John Boyd

## FACILITIES ENGINEERING FY 90 ACCOMPLISHMENTS

In FY 90, Facilities Engineering designed, awarded, and managed the largest construction program in the history of DMAAC. During the year, over \$8 million worth of construction projects was awarded. This figure includes the \$2.7 million project to site prep the fifth and sixth floors of E-Wing, which is being constructed by the U.S. Army Corps of Engineers, but designed and intensively managed by Facilities Engineering. The preparation of the plans and specifications for these projects required over \$400,000 worth of architect-engineer contracts. In addition to the monitoring and technical review of these design contracts, additional projects were designed within the FE Design Branch.

Most of the construction was directed at site preparation for the DPS segments. Other construction projects awarded to support DPS included segment contractor maintenance space and the installation of a new 10-inch chilled water line to E-Wing to ensure adequate cooling for the new DPS equipment.

Facilities Engineering also experienced a successful year-end funding program with contract awards exceeding \$3 million. The majority of these contracts were awarded within the last few days of the fiscal year. Special recognition for this achievement must also be given to the DMA Acquisition Division, St. Louis Facilities Contracts Branch, formerly the Directorate of Contracts (AQ).

In addition to managing large construction contracts, Facilities Engineering also performed daily maintenance, repairs, and operations of our facilities through an in-house work

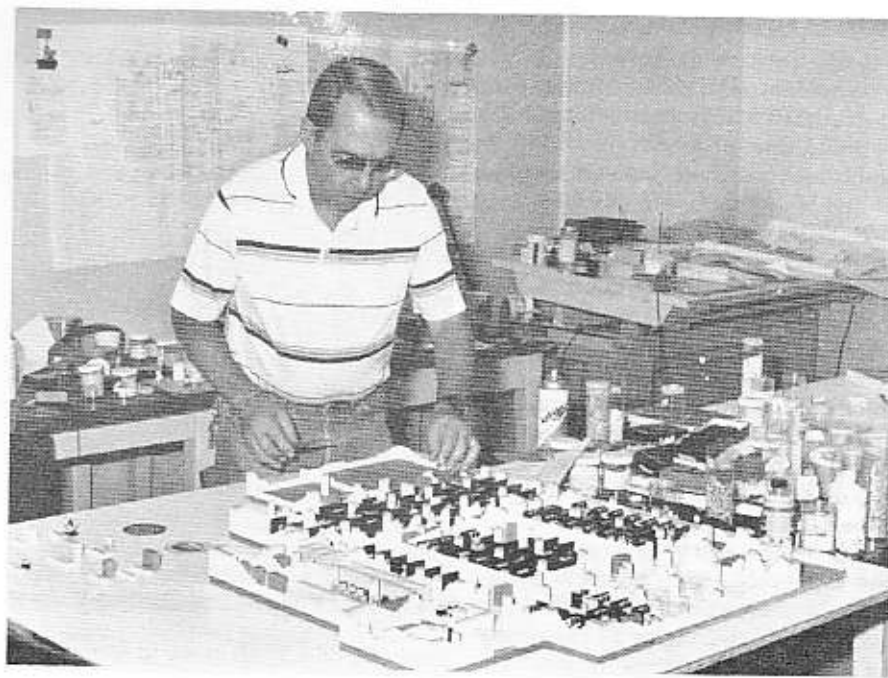


Photo by Jim Stepanik

Planner-estimator Mike Galloway of the Directorate of Facilities Engineering builds a scale model of a DPS site.

force. The Facilities Engineering in-house work force are the true unsung heroes at DMAAC. If everything is running okay, few give them a second thought, but the minute something goes wrong, they are the first to hear about it. This group of dedicated workers knows every inch of the plant and there's nowhere you won't find them. They repair chemical drain lines in the crawl space under D-Wing; crawl inside storm sewers, boilers, and air handling units; and even hang by wire down the side of Building 36 making repairs. Without this group, it wouldn't be long before the whole plant would come to a halt because of inoperable facilities. And let's not forget our in-house custodial force; this group of 39 employees keeps all of Building 36 and the SCIF at 8900 S. Broadway neat and sanitary.

Our in-house work force was extremely busy during FY 90 completing 14 major projects involving over 16,700 man-hours at a cost of \$600,000. They worked on everything from building DPS scale models to constructing the WWMCCS computer room to assisting every site-prepara-

tion contractor working at DMAAC. Among some of their major accomplishments were site preparation projects for TERCOM, B1B, DI-DTF, the HE-4 Segment, Pass IV, and the NARCS System. In addition, they found time to construct the fitness room and the FE/S break room, and upgrade the Negative Engraving and Mapping and Charting areas at 8900 S. Broadway. All this in addition to the everyday maintenance and repair needed to keep DMAAC operational.

--Directorate of Facilities  
Engineering

## MC EXCEEDS ITS FISCAL YEAR PROGRAMS

The Mapping and Charting Dept. (MC) began FY90 with an ambitious production program. MC had to re-establish its entire production program in response to the Counternarcotics Program requirements. MC developed a new production line of Topo Line Maps (TLM), a 1:100,000 scale product never before produced in MC. DMA commitments required over-

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# FY 90 Operations...

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time; additional resources and personnel moved to MC from other departments. MC put new training and production plans into work! All Counternarcotics requirements were met and MC actually exceeded its goal of 201 TLMs by releasing 207.

MC personnel enjoyed the challenges of the CN program but also continued to produce maps, charts, and digital data to meet other user needs. MC released over 200 Nav Plan charts, nearly 600 ATM reprint assignments, 800 digital products, 75 TLM 50s, and 150 ATM products.

In support of Desert Shield, MC was called upon again to work long days and weekends to meet critical user needs. MC used support from all divisions to successfully complete 41 medium-scale charts and 17 Escape and Evasion charts in one month. Manual compilation techniques and two auto carto systems were used to meet this critical production.

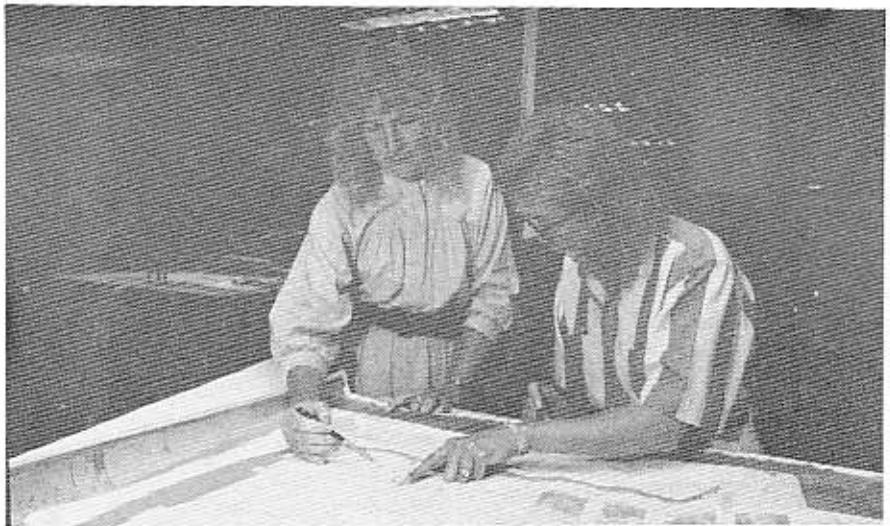
MC produced and distributed over 15 million Flight Information Publications (FLIPs) to DoD. If laid end to end, these products would encircle the Earth twice! For the first time publications were produced to cover unified Germany and the Sino-Soviet area. In addition, aeronautical information specialists provided timely support for the CN program and Desert Shield.

## Counternarcotics

For the CN program, MCAA, MCAB and MCAE compiled numerous mapping products for both air and ground operations. These products included TLMs, JOG-1501A, TPC, and ONC Charts. MCABA plotted hundreds of projections, grids, and shift information. Additional sources found by the Scientific Data Dept. and aeronautical information specialists were incorporated prior to printing.

The Graphic Arts Dept. (GA) gave support throughout the compilation process. In particular, where tremendous amounts of native source required camera work, GA was timely in providing it. When GA fell short on manpower, MC provided personnel in photo processing and contract acceptance support.

Deviating from its programs, MCD



Cartographers Connie Hall (left) and Deborah Sterling proof an Escape and Evasion Chart in the Mapping and Charting Division (MCA).

produced 86 1:100K maps in support of CN; the Feature Extraction branches worked 10-hour days, six days a week to meet their commitments. Completed 100K topographic maps were used to compile the JOG-1501A, effecting considerable savings in material and man-hours.

## Desert Shield

To support Desert Shield, MCA updated paper charts over the area. The series included JOG-A, JOG-R, TPC and ONC. Information was applied from a variety of sources, including aeronautical, vertical obstruction, base, and international boundary. Also updated was chart border information.

Coordination between the departments providing, applying, and printing information in the production of maps and charts is critical, and this support was excellent, allowing MC to exceed production rates in a challenging production environment.

MCD was tasked to produce charts in support of Operation Desert Shield. Twenty-one people in MCD shared the objective of producing the charts by working two 12-hour shifts, seven days a week. In order to meet the deadline, compilation was not delayed by waiting for the arrival of all source materials, and the usual chronology of production was rearranged. Communication requirements between per-

sonnel working on different shifts were met by leaving notes or, more often, staying beyond the 12-hour shift! Face-to-face exchanges provided confirmation that all steps of the process were completed, no critical elements were overlooked, and everyone was informed, as requirements changed on a daily basis.

This task could not have been successfully completed without the dedication and support of personnel from many offices, who willingly provided their skills.

## Escape and Evasion

In FY90 MC received a request for several EVC charts to be produced on a priority basis. New methods and techniques were utilized to reduce time in negative engraving and printing. After the charts went to negative engraving MC cartographers remained on call for reviews and final approvals.

As the initial request for EVC's was nearing completion, another request for Desert Shield support was received. This required a full blown production program for an additional two months. MC cartographers again set themselves to the task by working many hours and by developing solutions to all problems encountered. The cartographers worked very closely with GA and a representative of the Air Force Intelligence Agency,



# ...A Proud Accomplishment

Sergeant Major Bruce Johnson, who was TDY at DMAAC to provide chart layouts and technical guidance.

As the second phase was winding down, a third request was received which required recompilation of several EVC's due to availability of new source and revision of locations diagrams. This task was worked in a timely manner.

## Quality Control

The Counternarcotics and Desert Shield programs required MC to produce over 300 chart compilations in Colombia and the Middle East in less than nine months. To satisfy these requirements, it was necessary to divide the work among two divisions, utilizing different work methods: MCA, where traditional manual chart compilation was performed; and MCD, where FE/S work stations were utilized to accomplish compilation.

Although each division had quality control procedures built into their production processes, MCQ recognized that additional measures would be required to ensure compilation consistency between MCA and MCD. Accordingly, a staff review group was organized to inspect chart compilations after regular quality certifications had been performed in the divisions but before release to GA for color separation. The staff review group consisted of six personnel from

MCQ, MCP, MCA, and MCD.

During the final five months of FY90, the staff review group reviewed over 200 chart compilations and noted errors to be corrected before release to GA. Many touchplates or salvages were avoided, and the group contributed significantly to MC's ability to "do it right the first time."

## DFAD

Digital Feature Analysis Data, Levels 1C/3C, provides coverage from existing cartographic sources for weapons system simulators. It has been compiled by new-hire cartographers assigned to various departments (SD, DP, MC, DS) but waiting in MC for completion of their security clearance or admission to the Carto Training School. After compilation is completed, the final manuscript is released to the Digital Products Dept. (DP) for digitizing. In many cases, where the density was too great to be handled by scanners in DPC, the manuscripts were scanned in MCABA on the SCITEX scanner. This group of MC-assigned new-hire cartographers produced 144 cells of Level 1C and 112 scenes of Level 3C data.

## MPE

In June qualified cartographers were invited to apply for three to six months' training and production using Map Publishing Environment

hardware and software in Huntsville, Ala. Sixty cartographers responded for six available positions. GA added a lithographic specialist, and by Aug. 5 the MC Map Publishing Team reported for duty, joining a similar team from DMAHTC.

Training and subsequent production was directed towards LANDSAT 1:100,000 scale Image Maps and the finishing of FE/S-produced 1:100,000 TLMs for counternarcotics support. Later, with DMA's support for Desert Shield, the emphasis was shifted to producing Image Maps for the Middle East. Personnel are due to return to DMAAC in December. The MPE hardware and software will be delivered to the Center in January and production on Counternarcotics maps and charts is expected to resume in February 1991.

## DPS

All segments of the Digital Production System reached major milestones during FY90, as testing of initial operating capability and equipment deliveries occurred. During acceptance testing at contractor sites, MC personnel witnessed work station operations, wrote discrepancy reports, analyzed printouts and plots, inspected and tested hardware, and researched requirements to verify that systems performed as required. MC personnel were involved with the Data Extraction (DE/S), Product Generation (PG/S), and Production Management (PM/S) segments.

Much of FY90 was also spent supporting design and delivery issues for the Aeronautical Data Maintenance (ADM) data base, which is scheduled for delivery in January.

## ARDG

The ARC Digitized Raster Graphics (ARDG) program completed its first full year in FY90, with the ARDG Branch (MDCB) having become a reality in March 1989. The program involves production of Compact Disc-Read Only Memory (CD-ROM) containing digitized map images and text support files. Charts on compact discs include JNCs, ONCs, TPCs, JOGs and 1:50,000 TLMs. CD-ROM's are used mainly in mission planning

Continued on page 10.



Cartographer Mike Mereness (MCD) performs quality control of transformed data prior to transfer to CD-ROM.

# ...FY 90 Operations

Continued from page 9.  
by all branches of the military.

In ADRG production each chart is reviewed, and unique chart data necessary for system processing is extracted, such as chart boundaries, ellipsoid/datum information and projection parameters. Information that the user needs, such as sheet name, legend information, and highest elevation, is also extracted. This "ancillary data" is typed into a data base, and a floppy disk is generated to input the information into the ADRG system.

Artwork, which refers to the label on the compact disc and the location diagram and information booklet that are inserted into the compact disc case ("jewel box"), is part of ADRG production. A personal computer is used in design, while the Advanced Edit and SCITEX systems generate the negatives for printing.

During FY90 a total of 623 CD-ROM's were mastered. The goal for FY91 is 1,000.

## RTAD

The Relocatable Target Assessment Data program is a relatively new program at AC, having been initiated in March 1988. The program, as modified by various user-requested changes, produced numerous RTAD prototype data sets during FY90.

RTAD consists of contiguous digital data sets covering specified geographic areas. These data sets are composed of attributed and non-symbolized feature information segregated into "thematic files." One or more thematic files are combined into RTAD product "levels." Users may request RTAD Levels 1, 2, or 3 to support specific applications.

In March 1988, a cadre of MCA cartographers was assigned to establish an RTAD section (MCABD). Users have praised the output thus far produced. The RTAD compilers were enthusiastic about being involved in a prototype program they helped build.

## JCS/SIOP

MC's support for the annual Joint Chiefs of Staff Single Integrated Operational Plan (JCS/SIOP) involved modification of base negatives used to



Several charts are produced on Compact Discs in the Data Extraction Division (MCD), which also produces an accompanying information booklet and chart location diagram.

Photo by Jim Stepanik

produce Jet Navigation, Operational Navigation, and Tactical Pilotage charts.

To provide the user with the most current product possible, these modified bases were updated using information from the Chart Update Manual (CHUM).

The huge task of matching base information, Maximum Terrain Elevation and the Vertical Accuracy Overprint was accomplished, and the charts were reviewed for compatibility of information. Overprints compiled by the Air Force Strategic Air Command were added to complete this product.

This program has a high-priority, time-sensitive response requirement. To meet production goals, maximum coordination between the user and AC organizations is mandatory.

By October, the 33rd Overprint Edition of the JCS/SIOP was in the hands of the user.

## NASA

The majority of NASA support provided by MC for FY90 has been to the space shuttle program. For each shuttle mission, MCA produced five charts in a series, which were used in all phases from training and actual flight to post-mission documents.

Groundtrack charts were produced using orbit data provided by NASA. Groundtracks of the orbits and a table showing mission-elapsed time for the entire flight was printed on a 1:40,000,000 base map of the world.

The Mission Chart was then produced by overprinting the ground-track chart with the additional data of

satellite tracking limits, landing sites, and the spaceflight tracking network.

The Earth Observations Sites Chart was another overprint of the groundtrack chart. Atmospheric, terrestrial and oceanographic sites were outlined in various colors over the groundtracks. These sites indicate areas which would be studied from space during the mission.

The Mercator Orbit Map differs in that it was printed on a 1:52,000,000 base map. Groundtracks are not shown on this map, but it does contain the spaceflight tracking network, the satellite tracking system, different variations of landing sites, and the earth observations sites.

The final chart produced by MCA was the Photo Summary Map. Using data collected during the mission, this map shows the location of photographs taken from the shuttle. The map is included in a NASA document pertaining to the orbital science experiments on each shuttle mission.

MC is continuing to support NASA in its mission planning for future space shuttle missions.

—Introduction by Bob Edwards with contributions from Stewart Pagenstecher, Cathy Hatfield, Pat Hochstetter, Marla Taggart, Don Vance, Joe Zwettler, Stan Winkler, Nelson Harbor, Karen Anderson, Jean Seymour, Linda Shaffer, M. Linda Buckley, Vincent Koeppe, Sharon Werner, and Kelly Waymire.

Continued in  
next *Orienteer*.

# Director's Awards

*Chief Kept Quality During "Stressful" Period;  
Production Controller Aided Emergency Ops*

Receiving the quarterly Director's Award for supervisors is Ronald S. McMillon (SDFAA), quality control section chief for the Scientific Data Department's Point Positioning Division. During Operation Desert Shield, most positioning requests had to be met within 24 hours, and Mr. McMillon saw to it that the quality review continued to be top notch, that the pressures under which everyone was working did not cause an error to go through, and that due dates were met expeditiously," officials said. "He provided the necessary people and expertise to get the job done during a very stressful period when demand appeared greater than the capabilities of his section. The Division met every request, for which there was source, thanks to his efforts."

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Receiving the Director's Award in the non-supervisory category is Patricia Imbierowicz, production controller in the Directorate of Programs, Production and Operations Digital and Geodetic Division (PPD). She developed and maintained the status of Desert Shield tasking for the Emergency Operations Center. "Throughout the Desert Shield project, it was Ms. Imbierowicz's graphics that kept

**Ronald  
McMillon**



**Patricia  
Imbierowicz**



the AC Director and Headquarters DMA staff posted on the latest AC support," officials said. "Her involvement grew with time, and she began taking a lead role in collecting updated status from the Center's production support elements. It was only through her sense of urgency, job knowledge and willingness to work uncommon hours that deadlines were met daily."

## Retirements

**David P. Fahy** (PSD), physical scientist, retired Nov. 12. Starting as a mosaic assembler, he came to ACIC, now DMAAC, in 1955. An Air Force reservist, he was called up during the Cuban crisis in 1962. At ACIC, he was a member of the first computer techniques office and helped to man the Center's first modem computer. "I will take it easy this winter and see what comes up next spring," he said.

**Richard M. Gerson** (MCAAD), supervisory cartographer, retired Nov. 30. He came to ACIC, now DMAAC, in 1955, starting as an editor, reviewing compilations and color separations. He was drafted

into the Army from 1957-59 and served as a cartography instructor at Fort Belvoir, Va.

**Thomas H. Luebbert Jr.** (SOCD), security assistant, retired Nov. 30. A dental and medical technician in the Navy from 1946 to 1967, he came to DMAAC as a guard in 1980. "I will miss many people and friends at DMAAC, but I will not miss rising at 0445," he said. He will fish, bowl, volunteer at a hospital, and "spend some quality time with family."

**George S. Lux Jr.** (SDADD), cartographer, retired Nov. 30. He came to ACIC, now DMAAC, in 1958, working on photo mosaics in the Photogrammetry Division.

## Looking Back

**TEN YEARS AGO**—Old Newsboys (and Newsgirls) of the Aerospace Center collected a record \$1510.30 in the 19th annual event. Among them were six who were still at it in 1990: Frank Aufmuth, Henry Bauer, Priscilla Briggs, Jaunetha Cade, Dottie Herchert and now retired employee Tommy Thompson

**TWENTY YEARS AGO**—The Dec. 31, 1970 *Orienteer* carried some good news for all Federal employees: 1971 would be a record year for 3-day weekends. By moving four holidays to official observance on Mondays, a total of eight 3-day weekends were to be observed: in January (day following New Years'), February (President's Day), May (Memorial Day), July (day following Independence Day), September (Labor Day), October (Columbus Day), November (Veterans' Day), and December (day following Christmas weekend).

**FORTY YEARS AGO**—Ending its second year, the *Orienteer* (then printed via Multilith) carried year-end messages from Col.



Schauer and St. Louis plant commander Lt. Col. J. E. Morrison, with two sketches which, for the first time, approached half-tone quality. They were the work of Mel Kramer, who later served as head of public information, now PA.



**FIFTY YEARS AGO**—in the Fall of 1940 Lt. Ernest R. Swanson was placed in command of a small charting group within the Intelligence Division of the Office of the Chief, U.S. Army Air Corps. The new office, officially designated as the Map Unit, would in the next two and a half years grow into an organization adequate to meet the demands of global conflict. *Wells Huff*

## DMA Teams 1st and 2nd in Deaconess Corporate Relay

**O**n Nov. 18, DMA teams won first and second place in the Deaconess Corporate Challenge four-mile race, held in conjunction with the St. Louis Marathon. This allowed DMA to retain ownership of the silver first-place trophy cup, which they won in this event last year.

This race takes place over the first four miles of the marathon course and counts the first three members over the finish line as a team. Dave Talburt, finishing in 21:48, Mike McAmis (22:40) and Marty Staples (23:50) constituted the first team to finish, while Greg Shepherd (25:18), Curt Overbey (25:55) and Jim Takach (26:10) were the second team, with Rene Gamon as an alternate. Since the first-place cup "travels," DMA will have to defend the trophy next year against the usual fierce St. Louis corporate competition. In the marathon, Dave Dermody (DMASC/WG) went the distance in four hours, two minutes.

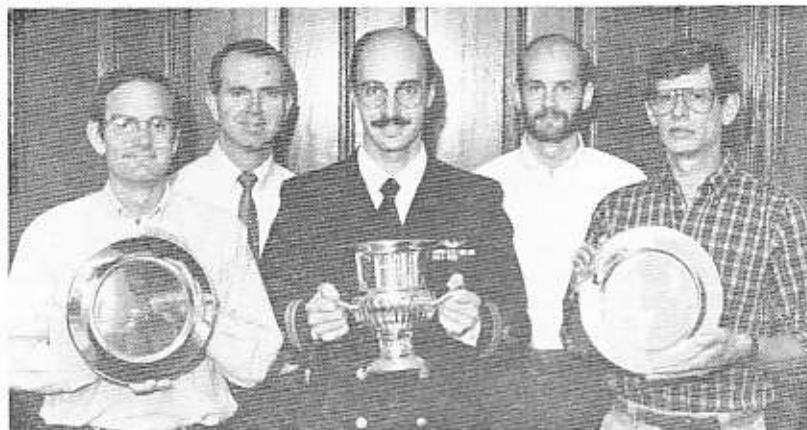
In other news, Jim Takach edged out Kevin Howard and Darryl Holman to win election as DMA Run Club president by one vote.

--Dave Talburt

## DMAAC Volleyball

*Standings as of November 20*

Team	Wins	Losses
<b>RECREATION LEAGUE</b>		
Bumpers.....	19.....	2
High Ballers.....	19.....	2
Fighting Beavers.....	15.....	6
American Gladiators.....	15.....	6
Classified Waste.....	12.....	6
Chain Gang.....	10.....	8
Out to Lunch Bunch.....	10.....	8
Hosey's Hogs.....	11.....	10
Grandpa and the Kids.....	7.....	11
Gravitators.....	4.....	14
Jerry's Kids.....	4.....	14
Who Cares.....	3.....	18
What Ever.....	0.....	18
<b>POWER LEAGUE</b>		
Volley Girls & Boys.....	17.....	1
High Five.....	10.....	8
Knetknockers.....	9.....	9
Rookies.....	0.....	18



In front, from left, the first-place team of Dave Talburt, Marty Staples and Mike McAmis. In back, Curtis Overbey and Greg Shepherd. Jim Takach was absent.

## DMA Runners in Chicago Marathon



Marty Staples (left) and Kevin Howard

Cartographer Kevin Howard (SDE-BC) and Navy Lt. Marty Staples (DMA/PRAF) accomplished their goal of qualifying for the Boston Marathon by completing the Chicago Marathon Oct. 28 in three hours and 10 minutes or less. Also finishing Chicago's marathon was safety specialist Bill Barnes (HRSB), who went the 26.2-mile distance in 3:16. On a course through Chicago's Chinatown and Little Italy, the marathon drew 8,000 runners as well as five bands to cheer them. On Oct. 11 Tom Bowes (MCPB) and Paul McCoy, chief of the Aeronautical Information Division (MCB), completed Columbus, Ohio's Marathon.

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