

Orienteer

DEFENSE MAPPING AGENCY AEROSPACE CENTER

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November 1, 1974

CFC Tops Out Over \$65,000

Final reports of the DMAAC Combined Federal Campaign show Center employees contributed over \$65,000 to the United Fund, National Health Agencies and the International Service Agencies during the just completed campaign.

Glenn Burgdorf, Center Project Officer, reported the total figure of \$65,061.97. This was over \$12,000 higher than last year with the

same 87 percent participation rate.

Payroll deduction was the major way of contributing for employees as 71 percent of the dollars were pledged through the automatic deduction system. Last year only 63 percent of the monies collected came through payroll deduction.

Both the average contribution and the per capita contribution were up from last year. This year's

average contribution was \$22.89 as compared to \$18.50 last year and the per capita contribution this year was \$19.97 compared to \$16.23.

One additional department achieved their Fair Share goal following the article in the last issue of the Orienteer. The department was Aeronautical Information.

Center Hosts Map/Chart Printing Symposium

DMAAC was the host organization for the October Map/Chart Printing Symposium held in Washington, D.C.

The symposium was designed to bring together key individuals in the map/chart printing field for a discussion of new methods and exchange of ideas.

Hosted by DMAAC and chaired by Otto Stoessel, chief of the Center's Printing and Distribution

Department, the symposium was attended by representatives from civilian as well as DoD government charting agencies.

Topics included in the program were: Registration System for Reproducibles, Alcohol Substitutes for Litho Press Dampening Systems, Lithographic Materials, Mini Computer for Photo Laboratory Operations, Photo Data Quantitizer,

Evaluating Color of Lithographic Inks, as well as other timely topics.

Speakers on the program from DMAAC in addition to Stoessel were Bill Benner, Larry Wojcicki, and Jim Zimmer.

Keynote speaker for the symposium was William T. Riordan, DMA deputy director of Programs, Production and Operations.

Unique Lunch
For RDGG
Personnel

Moon Mapping Book
Presented to Library

A book titled, "Mapping of the Moon Base and Beyond" has been

elevations of the moon, U.S. Air Force, lunar mapping, lunar

Tech Director Speaks of Military Mapping at Joint Society Meeting

"The need for military maps and charts is manifested throughout the history of man's efforts to understand his environment, exploit his mobility, and increase his survivability," pointed out DMAAC Technical Director, Lawrence Ayers before a joint meeting of the ACSM, ASP and ION on October 22 in St. Louis.



"Technical efforts to satisfy this need have increased in complexity in direct proportion to the increasing scope of political and military activities, the range and speed of movement, and weapon technology," he went on to explain.

Ayers was speaking on the Direction of Military Mapping Technology. He included in his talk a brief look at the history of mapping, the national attitudes toward mapping, an introspective look at the nation's current efforts and a look into the future direction of military mapping and what must be done to maintain a viable and responsive program.

In his talk Ayers stressed the need for a better understanding by the general public of what military mapping is all about. He cited an

exchange of statements between General Penney, former head of DMA, and Congressman Mahon of the House Appropriations Committee, to define the need for military mapping. Mr. Mahon had asked the general how he would explain to the public the need for the government to spend \$170 million a year on the operation and maintenance of DMA. The general replied: "My quick answer would be to grab the microphone and explain what mapping, charting and geodesy is and explain how our strategic aircraft and missiles can't get there and hit targets unless they know precisely where they are. Mapping is a misnomer; 60 percent of our products are conventional maps and charts. The rest are sophisticated film strips for advanced aircraft, digital tapes for missiles, and other products which these weapon systems need to navigate and hit targets. People don't realize that, and the name doesn't show the advanced technology and science that is required to produce these products to support the Armed Forces and modern weapon systems. It has changed drastically over the last 20 years."

To point out the changes and the need for mapping, Ayers cited examples of military mapping from the days of Hannibal's crossing of

Members of the Research Department's RDGG Branch joined together to produce and enjoy one of the most unusual types of luncheons on October 11.

Those with cooking skills prepared their favorite or special dish and those with good appetites enjoyed the collective results.

Everything was voluntary, according to J. Edward Jones, the coordinator of the event. "They could contribute either their culinary skills, their hobbies or their appetites," said Jones.

The menu included Heidolph's Hash, prepared by J. Heidolph, and Martens' Mink & Jones Jump, created by R. Martens and J. Jones. For breads it was Wetzker's Wafers by E. Wetzker; Brace's Buns from K. Brace and Johnson's Jewels by J. Johnson. Marks' Market Salad by J. Marks provided the salad dish with main dishes of Daring Dressing by L. Meyer, Zucchini Zip by J. Jones, ???????? by N. Hawthorne and green beans and carrots by M. VandeVen. For desserts they had Vern's Vanity by V. Hewitt, Garry's Grace by G. Holmes and Don's Dare by D. Riggs. Beverages included Lou's Liquid from L. Abromovitz and Boyd's Bomb by J. Boyd. Furnishing the support items such as napkins, plates, plastic ware and cups were D. Scheibe, G. Larry, T. McIlvaine. J. Johnson brought the hot plate.

"Moon-Past and Present" has been presented to the Center Technical Library.

The presentation was made recently to Librarian Charles Guenther by one of the co-authors, Robert Carder, a former employee of the Center.

Carder, along with Zdenek Kopal, professor of Astronomy and the University of Manchester, England, have spent the past few years compiling the data for the book and preparing the final manuscript.

The publication contains numerous pictures and comments regarding the lunar mapping work of the Aeronautical Chart and Information Center. Several of the first chart series are also contained in the book.

Carder's work was primarily centered on the advance of lunar charting from 1960 to the present.

Chapters in the book include — the history of lunar mapping 1600-1960, rotation and libration of the moon, selenographic coordinates, shape of the moon, relative

Force lunar mapping, lunar mapping at Lowell Observatory, U.S. Air Force space support mapping, U.S. Army Lunar mapping, USSR lunar mapping and National Geographic lunar mapping.

The book is available through D. Reidel Publishing Company of Boston.

examples of military mapping from the days of Hannibal's crossing of the Alps, the Oregon Trail exploration, Civil War and General Patton's North Africa crossing.

"... Military mapping has historically been a necessity for successful military operation. In each case the commander needs the mapping data to bring his military force to bear on his adversary," said Ayers.

— Rapid Technology —

To emphasize General Penney's remarks regarding the changing 20 years, Ayers said, "If you take our technology base since man started to develop technology, that technology base doubled during

the last 20 years and it will double again in the next five years. Consequently, weaponry innovation has demanded corresponding mapping and geodetic innovations to obtain the new kinds of data necessary to realize the full potentiality of the weapons."

In comparing the military and civil mapping fields the technical director said, "... while military mapping has much commonality with all other forms of mapping, its special characteristics for the direct support of both weapons delivery technology and military tactics places demands on it that far exceed the typical general purpose non-military products."

Turning to the future he said that the new weapons systems described by the Secretary of Defense to Congress this year are the most sophisticated ever perceived. The maps and data they will need will be extremely complex.

To meet these defense needs, military mapping is depending on technology advancements to do three things, related the speaker.

Continued Pg. 3

New AFA Officers for 1975



The Greater St. Louis Chapter of the Air Force Association elected its 1975 officers during a meeting October 18th. From left to right are: Donald Kuhn, incumbent president (DMAAC); Richard Gerber, vice president; Jack Kurtz, secretary and John Moellenhoff, incumbent treasurer.



Digital Data Panel For November ACSM

The St. Louis Section of the American Congress on Surveying and Mapping will present a panel discussion, followed by an open forum, concerning digital data at its November monthly meeting.

The panel presentation is part of the chapter's endeavor to keep its members and associates abreast of new techniques in charting and mapping.

The forum will provide an opportunity to consult with a group of DMAAC employees who are directly involved in the field of automated cartography. The panel will consist of Richard Webster, CD; David Premer, CD; Rogers Robinson, PR, and Fred Hufnagel, PR.

Ten years ago at the Center digital data was thought of as being a future tool for cartographers, while automated cartography was only a vision of someone's imagination. However, through a period of accelerated technology, digital data is here and automated cartography is being implemented.

Civilian Employees & Politics

As a civilian employee of the Federal Government, you may wear political buttons and sign petitions. You may not distribute campaign material or campaign for or against a political party or candidate in an election for public office.

The Civil Service Commission (CSC) explains to civilian employees that the Hatch Act of 1939 was passed to protect them from undue political influences and reprisals. Part-time and temporary employees are also subject to the regulations.

Some of the things Federal employees may do include:

— Wearing political buttons and

Through automation, new products will be conceived which in turn will effect and challenge the current skills and expertise of the cartographer.

The panel will present such data as: What is Digital Data?, Who Wants It?, For What Purpose?, What Equipment Is Required?, Who Is Available?, and What New Equipment Is in Development?

Everyone interested in the field of cartography is invited to attend and ask questions that may not have been covered during the presentation.

The meeting will be held Nov. 12 at Chris' Restaurant on S. Broadway beginning with a cash bar at 4:00 p.m. Price is \$5.95 for the sit-down dinner.

Ticket information can be obtained from Rod Stecher, ext. 4084; Al West, 4096; Shirley Long, 4471; Bob Stanley, 4892 or Norb Cook, 4915. Retirees should call Rod Stecher to confirm reservations.

— Distribute campaign material;

There are other examples. When violations are reported, the CSC makes investigations, holds hearings, and issues rulings (the most severe penalty is removal; the least severe, suspension without pay for 30 days).

A few Federal employees are exempted from many of these regulations. They are those employees paid from the appropriation for the Office of the President, the heads and assistant heads of executive or military departments, and officials who determine national policy and who are appointed by the President

Bits And Pieces

From the Black book:

Do you realize only two months are left in 1974? Christmas is just around the corner and Thanksgiving is practically in the garage. It seems as if I just put my glass down from toasting the birth of 1974.

-O-

Speaking of holidays . . . the first week of October we made a trip to Chicago and discovered that the downtown stores already had their animated Christmas windows in operation. If that isn't rushing the season I don't know what is.

-O-

I hope this year the energy crisis isn't so bad that the Christmas outdoor lighting is curtailed. It seemed last year to take away something from the season not to have the beautiful home decorations. Of course, for the guy who has to spend his evenings in the cold wind putting the lights up, the energy crisis isn't such a bad idea. That's the way I am, I like to look at everybody else's as long as it's not me putting them up.

-O-

Our congratulations to the people of DMAAC for their splendid efforts in support of the Combined Federal Campaign. Your help should make many warm hearts during the Yule season.

dib . . .

Pennies

The DMAAC Dining Hall is in need of pennies. They are of

Service and Suggestion Awards



Berg



Bowen



Graves



Van Winkle



Cloonan



Hartley



Meyer



Scott



Dennett



Alderman



Davis



Kirwin



Price



Dyrland



Lueschner



Whyman

Certificates and pins for completing 20 years Federal service were received by: (Beginning top row, left to right), Glen L. Berg, MDM; Donald R. Bowen, MDA; Robert W. Graves, MDAC; Lawrence A. Van Winkle, MDD; Stephen R. Cloonan, MDRB; Thomas E. Hartley, MDDD; Raymond J. Meyer, MDMB; Timothy Scott, CMDD; and Robert B. Dennett, CDIA.

Suggestion awards were received by: Philip K. Alderman, MDM, who received \$210.00 for his suggestion to plot Minibloc sectors

MDM and Gary Kirwin, MDC, submitted a joint suggestion and shared the \$340.00 award. Ralph E. Price, MDD, received \$205.00 for contributing a suggestion of restricted subject matter. Donald Dyrland, MDR, co-authored a suggestion to eliminate "slow-burn" storage of intermediate photographic products and received \$127.50. Alfred E. Lueschner, MDM, received \$120.00 for suggesting adjustment in shuttle bus scheduling on special blood donor days to permit more efficient personnel turn-around

- Wearing political buttons and displaying stickers on private automobiles, subject to work-related limitations;
- Making a voluntary campaign contribution;
- Accepting appointment to a public office as long as it doesn't interfere or conflict with the employee's regular work duties;
- Being a member of a political party and attending meetings (as long as the employee does not take an active part in management of the organization);
- Signing petitions;
- Becoming politically active in connection with a "question which is not specifically identified with a political party, such as a constitutional amendment, referendum, approval of a municipal ordinance, or any similar question or issue."

Employees may not:

- Run as a candidate for election to a national or state office (election to local office is permitted in certain communities, such as in those around Washington);
- Campaign for or against a political party or candidate;
- Become a partisan candidate for election to any public office;
- Solicit, receive, collect, handle, disburse, or account for assessments, contributions, or other funds for a partisan election. Make a political contribution in a Federal building or to some other employee;

are appointed by the President subject to Senate confirmation. There are partial exemptions in areas where there are large numbers of Federal employees. If CSC grants exemptions in these areas, employees may actively participate in local campaigns and political managements as long as they are for independent candidates or parties.



A BENEFICIAL SUGGESTION
could make your job easier and pay a cash dividend, as well.

The DMAAC Dining Hall is in need of pennies. They are offering an extra 5¢ for every 50¢ worth of pennies delivered to the cashier.

In Sympathy

Lewis R. Meek, ADDS, died on Tuesday, October 15. Private services were held at Ballwin, Mo.



Meek

Mr. Meek, a retired Air Force Lt. Colonel, joined DMAAC December 12, 1960 and was assigned as an aero info specialist.

He is survived by his wife Alyce, son Larry and daughter Mary Anne.

Walter W. Kombrink, CDIE, died on Tuesday, October 22. Services were held Thursday, with interment at New St. Marcus.



Kombrink

Mr. Kombrink started at DMAAC as a cartographic aid in the Production Branch on April 26, 1948. Most of his service was in the Cartography Department where he most recently was a supervisory cartographer assigned to Compilation & Support Division.

He is survived by his wife Jean and daughter Debra.

suggestion to plot Minibloc sectors at a scale of 1:500,000 and key to the developed grid of the MAX-TEL Program and \$50.00 for another, subject of which is of a restricted nature. Larry Davis,

Geodesy Degree To Blackmer

Walter Blackmer, GSSQ Project Officer, recently earned his Master of Science degree in Geodesy from Purdue University, West Lafayette, Indiana.

Blackmer studied under the non-thesis option and was able to achieve a grade point average of 5.5 out of a possible 6.0. Walter was not the only person honored on graduation day, his wife Cleo was awarded a PHT (Pushing Hubby Through) from the "Purdue Dames."

Prior to joining the Geodetic Survey Squadron, Blackmer served with the U. S. Army (1949-1958) in the Philippines, Korea, Japan, and Germany. From 1959 to 1961 he worked for the U. S. Geological Survey.

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Col. Donald D. Hawkins
Director

David L. Black
Chief, Office of Information
Editor

efficient personnel turn-around time, and Marvin H. Whyman, MDC was awarded \$25.00 for his suggestion to insure that new tapes in the 1108 system are properly logged.

Marks 30 Years

Henry J. Amptmann, PDB, has spent 27 or his 30 years Federal service at DMAAC. Drafted into the Army in late 1941, he spent three years with the 1st Army in the European Theater of Operations. He was discharged October 1945.

He came to DMAAC on August 26, 1947 and was assigned to the Printing Department where he is presently assigned as a 5-color lithographic pressman.



Amptmann

Federal Service Ends for Five

JOSEPH G. BRAIBISH, CDIA, retired recently. After completing high school he decided to enter the Navy but was not accepted so he joined the Naval Reserve. After 8 years he again tried active duty, this time he was accepted by the Air Force and was assigned as a B-17 mechanic and then an electrical specialist on the B-29. After his military service he went to work in the building trade as a carpenter. He decided to return to school, after 18 years, and received a BA degree in Spanish at Washington University in 1953. He taught high school Spanish and some 8th graders in an Illinois consolidated school.

He came to DMAAC June 30, 1955. He was RIFed in October 1957 when he transferred to Scott AFB and went back to carpentry. A month later he was called back to DMAAC and assigned to the Research Department, then Photogrammetry. At the time of retirement he was assigned to the Cartography Department, Compilation Branch as a cartographer.

As a result of injuries he



Braibish



Sindell

received in an auto accident a year ago, he decided on retirement.

"I am developing a mail order business, among the many other hobbies I've had for years," said Mr. Braibish. "I will miss the many friends and co-workers from the Chart Plant but as Shakespeare wrote, 'There's a divinity that shapes our ends, Rough-hew them how we will.' I'll have to do the best. Being alive is really wonderful and I sure am glad and very thankful for that."

CHARLES W. SINDELL, MDD, Served with the Air Force from November 1942 until October 1945. He flew with the 311th Ferrying Squadron out of Ireland replacing bombers in England that were lost in combat. He was awarded four bronze stars for Northern France, Central Europe, Rhineland and Ardennes campaigns.

September Promotions

The following people received promotions during the month of September: Betty J. Addison, GS-6; Rudy M. Aguilar, GS-11; Louis M. Aiello, GS-7; Edward W. Allen, GS-7; John M. Allen, GS-11; Timothy J. Anderson, WP-15; Wayne F. Arms, GS-12; Millard M. Babich, WP-21; Nancy L. Baker, GS-4; Woodard C. Baker, GS-12; Benny W. Barbee, GS-5; Lyle D. Barker, GS-11; Walter R. Beatty, WP-25; Roberta M. Beers, GS-6; James W. Bell, GS-6; Charles F. Black, GS-5; Beverlee K. Bollinger, GS-4; Booker G. Bowers, GS-5; Mamie S. Brantley, GS-6; David S. Brodribb, GS-5;

Carl E. Lebegue, GS-6; Quinten W. Lenger, GS-7; William M. Lovelady, GS-5; Joe P. Luckett, GS-5; John S. Marciniak, GS-5; Don M. Marohl, GS-11; Warren A. Mathews, Jr., GS-11; Roy N. Mattke, GS-12; Bernard L. Mazurkiewicz, WP-21; Charles W. McAtee, WP-15; Willard J. McCormick, GS-9; Claud E. McGarrity, GS-11; John McMahon, GS-11; William J. Meehan, GS-5; Donna E. Miller, GS-3; Morris A. Miller, GS-6; Hura J. Minger, GS-5; Fred Morlock, GS-5; Caesar L. Moss, WP-21; Sharon A. Neumann, GS-5; Gene H. Niederschmidt, GS-11; Kenneth

He came to DMAAC in April 1952 and was assigned to the Photogrammetry Division until 1956 when he went to Cartography Division. Three years later he was reassigned to the Research Department where he worked until 1964 when the function was transferred to Missile Support Department. He was a cartographer in Positional Data Division at time of retirement.

When queried on retirement plans, Mr. Sindell said: "No plans on retirement but will take it as it comes. The people I've worked with have been fine and will be missed."

OLIVER A. WITTE, MDRA, retires effective November 8. His 8 years of Federal service were at DMAAC where he was assigned as a photographer (M&C).

"My wife Rose and I will enjoy the retirement," said Mr. Witte, "It's been a tough road for the past 50 years, but the good Lord has provided."

"I love to play golf and fish, and I have plenty of work lined out to do at home. My retirement will be a retirement, like putting an old horse to pasture, but no rocking chair. I have enjoyed my experience at DMAAC."

Other retirements, for which no background information was received by the **Orienter**, include:

NATHAN F. STAMPFER, LOM, who retired with 16 1/2 years total Federal service. A press mechanic, he spent the past 7 1/2 years at DMAAC.

RALPH G. CONNER, FEMM, an electrician who spent all but two of his 11 years, 8 months total Federal service at DMAAC.

DMA Hosts CENTO Meet

A Maps and Charts Subcommittee Meeting of the Central

Tech Director Speaks "Military Mapping"

Continued From Pg. 1

The three items are: reduce the cost of collecting and producing mapping, charting and geodetic information; increase the accuracy of the data we furnish so as not to degrade the weapon systems capability; and provide data in various formats to fit directly into the computers and control systems of these weapons systems.

— Future Programs —

How these three items are accomplished is the key to the direction of military mapping, said Ayers. He then outlined six positive steps toward accomplishment.

"1. **First, let's address the source material.** The type of mapping data collected for defense comes from many sources and in many scales, shapes, sizes, and formats. This source material is always changing because advancements in collection systems. We are and must continue to develop and modify processing equipment and techniques to accept the new data. We must output from this the launch and target position and map and chart control data. Of particular interest is the R&D Conference currently underway at this Center where each Department is participating in the formulation of ideas and needs to be addressed in the R&D Program. Last year two efforts which were given considerable attention were the Advanced Stereocompilation Device (AS-11-BX) and the High Resolution Ortho Photo Equipment (RPIE). These two systems were given high priority as essential to DMA's ability to meet the projected weapon requirements for digital and graphic information in the post 1978 time frame.

"2. **Second, the military mapping program** historically has relied on manual processes for drawing maps on paper and film.

military departments to insure that we can provide the data in a form acceptable to their systems.

"5. **Another challenge is that of acquiring charting data for ocean areas.** The Earth is 73 percent covered by water, yet we don't even know accurately how deep the ocean is in many parts. Just to accomplish the present stated military needs for bathymetric surveys would take 280 shipyears using our present capability. One of our highest priority projects is a multi-beam sounding system currently being installed in a survey ship. You know, if one could find an optical window in the sea a major technical revolution would occur. The present acoustic techniques for measuring water depths are unduly restrictive.

"6. **Geodetic and Geophysical Support.** For support of the missiles there is a need for geodetic position and gravity values beyond the current technology. We have embarked on a development of collecting gravity and geodetic data from satellites to meet these new missile requirements. The Secretary of Defense presented to congress on 7 February 1974 the 1975 defense program and in this program he outlined the proposed forces and weapons systems required to maintain a worldwide equilibrium of military forces. The secretary recommended further developments to increased accuracy of missiles. This program

Bowers, GS-5; Marnie S. Branley, GS-6; David S. Brodribb, GS-5; Gail P. Brown, GS-4; Lillian Brownstein, GS-6.

Anthony J. Caiazzo, GS-11; David M. Caldwell, GS-14; Fanton Chapman, GS-5; Paul C. Chapman, GS-5; Richard C. Clouser, GS-5; Leona M. Cramer, GS-5; Jerry M. Crump, GS-11; Betty L. Cuning, GS-5; Shirley J. Cuningham, GS-5; Charles Davis, GS-5; William C. Davis, GS-5; Patricia A. Dickmann, GS-5; Mary E. Doll, GS-6; Gilbert W. Downing, GS-5; Thomas F. dufford, GS-11; John T. Duroso, GS-5; Donald J. Edgar, GS-11; Carl Fannon, WP-21; Michael Feduniszyn, GS-5; Boleslaw J. Figorski, GS-5; Judith M. Fizer, GS-4; Benjamin Fordson, GS-5.

Penman R. Gilliam, GS-15; Mary A. Glosecki, GS-5; Delores E. Grandidier, GS-7; Virginia E. Green, GS-3; Mary I. Griffin, GS-4; Max E. Gulley, GS-5; Thomas H. Harlan, GS-5; William C. Harris, GS-7; Hosea Harrison, GS-6; Dorothy Herchert, GS-5; Norval J. Hermann, GS-5; Sharon A. Hertel, GS-5; Loren D. Hicks, GS-5; Billie W. Hopwood, GS-11; Raymond J. Hric, GS-11; James A. Hulet, WP-15; Eloise B. Hunt, GS-6; Andrew A. Jackson, GS-12; Kent T. Johnson, GS-12; Emil G. Kemp, GS-6; Lawrence Knopfel, GS-13; Jeana M. Koch, GS-3; Bernard J. Kolo, GS-7; Theresa A. Kramer, GS-4; Marcia A. Kraus, GS-4.

A. Neumann, GS-5; Gene H. Niederschmidt, GS-11; Kenneth W. Oberbeck, GS-11; Ralph R. Peterson, WP-15; Wayne A. Peterson, GS-11; Wilda L. Pogue, GS-6; Albert Prater, Jr., GS-5; Henry J. Price, WP-15.

Teresa L. Ramaesiri, GS-5; Raymond R. Roach, GS-11; Doretha Robinson, GS-3; Earl K. Rogers, WP-15; Charles J. Ruma, GS-7; James D. Runnion, GS-11; Frances L. Schmidt, GS-5; Donald J. Scholten, GS-5; Gerald C. Schuld, GS-12; Ernest L. Scott, Jr., GS-12; Linda M. Seebass, GS-11; Nancy J. Seemiller, GS-3; Ronald L. Selvey, GS-11; Wilbert E. Shaffer, GS-5; Roland Siller, WG-5; Oscar Simpson, GS-5; Smedley J. Sizemore, Jr., WP-15; Lloyd R. Smith, Jr., GS-5; George L. Soscia, GS-11; Sam Stowers, GS-5.

Richard S. Stroud, GS-11; Roy O. Stroud, GS-5; Patricia L. Summerfield, GS-11; Warren J. Tabachik, GS-11; Henry V. Taber, GS-7; Vaughn A. Thomason, GS-5; Ralph J. Tosi, GS-6; George F. Treon, GS-5; Vivian P. Tuckson, GS-11; Joseph E. Tuthill, Jr. GS-7; George D. Vainikos, GS-5; George Walker, GS-5; George L. Wallhauser, GS-5; Mary F. Ward, GS-4; Leo D. Wiedeman, WP-15; Albert J. Wiegel, GS-9; Bonnie J. Williams, GS-6; Kenneth Williams, GS-6; James E. Yancey, GS-5; Charles E. Youngberg, GS-11; Connie L. Zimmer, GS-4; Vernon D. Zorn, GS-11.

maps and charts. Sub-Committee Meeting of the Central Treaty Organization was hosted by the Defense Mapping Agency during October in Washington, D.C. This was the first time that the United States has hosted this annual meeting.

Delegates from Iran, Pakistan, Turkey, the United Kingdom and the United States met to exchange views on mapping and charting activities within the CENTO region and to coordinate efforts and resources in producing maps and charts for military purposes.

Observers from NATO were also invited to attend.



SCORPIO

OCTOBER 24-NOVEMBER 22

Scorpio, the secretive, magnetic perfectionist, possesses will power and intense emotional drive. You never deal with life superficially. You have good judgment and good luck in financial matters and know how to make money multiply. Watch your savings grow fast with U.S. Savings Bonds.

reached on manual processes for drawing maps on paper and film. We, until recently, did not produce or have need to provide digital maps for weapons. However, computers and plotters using digitized map data now allows one to perform these tasks, using the human to make the more difficult decisions. The trend will be to exploit this technology in the chart and flight information production programs to increase the speed and accuracy and to produce the digital data that is now needed.

"3. Third, the high volume of source data currently in our inventory is expensive to store and maintain. Also the new digital maps and micro maps cannot be handled in the normal warehouse form. Therefore, we have taken efforts to seek out the technology which allows us to store and retrieve the libraries in a compact form with quick and easy access. This compact form must not degrade the map precision and it must allow us to go from its original form into product production quickly and efficiently.

"4. Fourth, as new weapons and systems are developed, new methods and techniques will be developed to translate data normally shown on a map into formats to fit into the weapon computers and display equipments. Examples are radar interpreted scenes of targets used in the terminal guidance systems of missiles, holographic moving color maps displays (in cockpit of the aircraft). We are in a support role, working with each of the

development of improved accuracy of missiles. This increased accuracy includes military mapping responsibilities."

—Responsibility—

In closing the technical director turned to the nation's economy and the role of MC&G. "From the recent actions of congress and the President we are all aware of the concern of the nation's economy. This is important to us all. The President and congress are cutting defense spending in non-essential areas and even in essential ones. It is noteworthy to say that as recent as last week military mapping has taken a very small reduction from the requested FY 75 program. I believe this is because of the past and present directors' ability to show the need to continue the mapping program and because of our outstanding performance such that the military users are willing to defend the mapping program."

"With this comes a responsibility on us, the first line MC&G producers," he warned. "We cannot become dormant or secure in our historical performance."

"As long as we are continuing to produce in support of the military needs or projected needs, . . . and are constantly finding new ways to cut costs, and most important, as long as we the producers are striving to produce at our best capacity, the military mapping trend will remain, as it has historically, an important and active part of defense preparedness."

Recent Visitors



Three visitors from Thailand are greeted by Col. W. W. Keehr and Technical Director Lawrence Ayers as they visited the Center October 18th. The visitors were Col. Sukit Semangern, Royal Thai Air Force; Thongterm Yuktanuntana, Thai Royal Irrigation Department and Chanvid Lusanandana, Thai Department of Agriculture. They toured the Center as part of a cross country visit, arranged by the State Department of Cartographic and Photographic Organizations.

NCO's Honored at GSS

Sgt. Calvin I. Lee and Sgt. Lyman W. Hawkins were selected to be Geodetic Survey Squadron Outstanding Career NCO and Outstanding First Term NCO of the Quarter for July through September.

In announcing the awards, Col. Heiniger, GSSQ Commander, cited both men for their extraordinary dedication and performance of duties and their determined efforts at self-improvement.

Sgt. Lee is a graduate of Crestwood High School, Cresco, Iowa. He also attended Iowa State University, majoring in Agricultural Education, prior to joining the Air Force in 1970.

with the Squadron's now-disbanded Detachment 2 at Malmstrom AFB, Montana. He is currently assigned to the Geoeceiver Satellite Tracking Branch as a Geodetic Surveyor. Sgt. Lee is married to the former Eileen Kuhns of Cheyenne, Wyoming.

Sgt. Hawkins is a graduate of John A. Wilkinson High School, Belhaven, North Carolina. He also received an Associate Degree of Applied Science in Data Processing from Lenoir Community College, Kinston, North Carolina in 1971. He is currently assigned to the Azimuth Laying Set (ALS) Quality Control Section of the Geodetic Branch. Sgt.

Eyewitness Recalls St. Louis Aviation History

by David L. Black

"St. Louis is one of the foremost pioneers of aviation in America", so said famed aviatrix Betty Robertson Uhl in a speech before the Greater St. Louis Chapter of the Air Force Association October 18.

Mrs. Uhl, who first soloed in 1920, gave the association members a personal view of St. Louis aviation history. She also told of her adventures with the Robertson Aircraft Corporation, (owned by her brothers), and the establishment of the first mail flights from St. Louis to Chicago.

For her talk, she divided St. Louis aviation into three distance eras—balloons, dirigibles and airplanes.

Aviation, according to the woman who has been named National Aviation Woman of the Year, began in St. Louis in 1859 when John Wise and Bill Hyde set the world's record for the longest balloon flight. "They started from Washington Square Park, at 12th and Market Streets, where the present City Hall is now located, and flew 1150 miles to Henderson, New York."

Major Albert B. Lambert (for whom Lambert Field is named) was instrumental in bringing the International Balloon Races to St. Louis in 1907, according to the aviation pioneer and charter member of the AFA chapter.

The races were held in St. Louis through 1919. Dirigibles came on the St. Louis scene in 1904 and the city hosted international dirigible races in 1908 from Forest Park.

The advent of the airplane and an interest by Major Lambert in the heavier-than-air craft resulted in the first airstrip in St. Louis just west of the Fordyce estate in Florissant. It was called Kinlock Field due to its proximity to Kinlock Club.

Lambert was one of the first civilians to place an order for aircraft from the Wright Brothers

flying 75 miles from Springfield, Ill. to St. Louis."

Beaming with pride, Mrs. Uhl told the group that the United States Army Air Corps was founded in St. Louis in 1916 with only five flyers and twelve planes.

St. Louis aviation history was not limited to pilots. Thomas W. Benoist founded the Aeronautical Supply Company which sold planes and parts at 3832 Olive Street. He also had the first flying school and later manufactured aircraft of his own design in St. Louis at a Delmar Street factory.

Some noteworthy St. Louis aviators of the early 1900's pointed out by Mrs. Uhl included Albert Berry who was the first to make a parachute jump from an airplane. He did this in 1912 at Jefferson Barracks.

Another aviator was Russell Frolick who was also one of the first aerial photographers.

As aviation grew in St. Louis, the city felt the need for a more convenient location for an air field, said Mrs. Uhl. Mayor Kiel announced the preparation of a landing field in Forest Park. The site was located immediately north of the Forest Park Highlands (U. S. 40 now runs through the area). The field was 1800 x 1400 feet and consisted of a hangar and machine shop.

In 1919, Mrs. Uhl's brothers, Major William Robertson and Lieutenant Frank Robertson, formed the Robertson Aircraft Corporation at the Forest Park field, but soon moved it to Robertson Field in Anglum, Mo. That field is now the nucleus of Lambert-St. Louis International Airport.



Betty Robertson Uhl, St. Louis aviation pioneer, receives a corsage from St. Louis Air Force Association Chapter President, Donald Kuhn prior to her speech October 18.

heavy moccasins, low winds, sleet, snow and rain, and most dreaded of all airmen's enemy—fog."

First to be forced down, according to the St. Louis aviation historian, was Lindbergh. Flying northward in the late fall, he ran into a heavy fog south of Chicago. The men of the field heard his Liberty motor roar westward after he had circled the field and finally it died away. "Thirty minutes later," she reported, "a Ford truck rolled up to the hangar on the mail field. A tall helmeted man climbed from the seat and strode into the office with a couple of mail sacks over his shoulder. 'Here's the mail. It's ten minutes late!' That was his only explanation for an uneasy hour in which he had struggled vainly for a landing at the field, and finding none had to set his plane down ten miles out in the country."

The woman, who was a

Joining the Air Force in 1970. Before his assignment to the Geodetic Survey Squadron at F. E. Warren AFB, Wyoming, he was

of the Geodetic Branch. Sgt. Hawkins is married to the former Mary Powell of Belhaven, North Carolina.

Calendar of Events

| EVENT | WHERE | INFO |
|--------|---|---|
| Nov. 1 | Arsenal Credit Union Annual Meeting/ dinner/dance | Marriott Motor Hotel 771-5050 |
| 7 | Association of Litho Club Meeting | Salad Bowl L. Held/4845 |
| 12 | FBA Lunch & Meeting | Carpenters Hall D. Black/4142 |
| 12 | ACSM Meeting | Chris' Restaurant J. Kristmann/ 4615 |
| 14 | DMAAC Women's Club | Missouri Athletic Club Mrs. Radick/ 892-1265 |
| 15 | BLOODMOBILE | |
| 18 | AGU Meeting | St. Louis U. Kelly Auditorium 6:30 p.m. J. Finklang/ 4606 |
| 19 | FBA Dinner | Louis IX International Restaurant G. Shalhoob/ 4793 |
| 23 | AFA Joint Meeting with Scott Memorial Chapter | Augustine's Belleville 7:30 p.m. D. Kuhn/8254 |
| 25 | Stamp & Coin Club | Bldg. 36, RD Conf. Room R. Rolf/4146 |
| 27 | OLD NEWSBOYS DAY | |
| 28 | HOLIDAY - THANKSGIVING DAY | |

Contact Shirley Sostman/4563 to have your December events listed.

aircraft on the Wright Brothers and was the fifth man in the United States to qualify as both a balloon and airplane pilot.

Reflecting on the first heavier than air Flying Meet held in St. Louis in 1910, Mrs. Uhl explained some of the first records set in aircraft aviation. "Alfred Le Blanc, a French aviator, who gave the first exhibition in this country of his Berliot monoplane, set the world's record of 68 miles per hour at the meet."

"Arch Hoxley . . . was there and he set a long distance record of

AGU Meet Nov. 18

Dr. Robert Walker, professor of Physics at Washington University, will address the joint meeting of the American Geophysical Union and the American Meteorological Society November 18.

Dr. Walker will speak on "Serendipity Revisited, Extinct Isotopes, Early Solar System and Application of Physical Sciences to Archaeology."

The meeting will be held in Bush Memorial Center at St. Louis University.

Social hour will begin at 4:30 p.m. with dinner at 5:30.

Tickets are \$5.50 and can be obtained from Ladorn Creighton, CDT; Don Varner, RDP; Louis Greco, RDN; John Hopkins, RDG; Ken Boling, MDA or George Collins, PRRS.

Airport.

In 1926, several years after Mrs. Uhl's first solo, her brothers received the St. Louis to Chicago air mail contract from the government. It was at this time that a young pilot by the name of Charles Lindbergh came to work for the Corporation. Flying the mail through all kinds of weather, both night and day, was the warm up for Lindbergh to his historic flight of 1927 across the Atlantic.

Talking of the early air mail days from a personal view, Mrs. Uhl said, "Besides early darkness, winter brought other difficulties. There was the cold, which bit through fur-lined flying suits, and

The woman, who was a passenger on the maiden flight from St. Louis to New Orleans in the mail and passenger Robertson Ford Tri-Motor plane in 1930 (the flight was the beginning of Robertson Air Lines, now American Air Lines), painted a verbal picture for her audience of the early days in St. Louis aviation. She talked of the romance of the mail flights and the greatness of the early aviation pioneers. She left no doubt in the minds of the audience that she had been a first hand witness to St. Louis aviation growth from the first grass strip to the cement complex of today's Lambert Field.

Doctorate to Elphingstone

Gerald M. Elphingstone, currently a Cartographer at DMAAC in MDMT, received his doctorate in Photogrammetry.

Dr. Elphingstone wrote his thesis on "Simultaneous Adjustment of Photogrammetric and Geodetic Observations." His project was supported by the U.S. Army Research Office, Durham, N.C., and was directed by Dr. K.W. Wong of the University of Illinois. This project involved the addition of geodetic measurements (azimuths, distances, elevation differences and angles) to the Analytical Photogrammetric bundle adjustment in order to adjust the ground survey network with the photogrammetric block.

Dr. Elphingstone received his

Bachelor of Science with honors in mathematics from Arkansas State University. He was awarded a National Science Fellowship at the University of Illinois for one year as well as one year of Long Term Full Time Training by DMAAC. He received his MS in Civil Engineering in 1969 from the University of Illinois.

He has been employed at the Aerospace Center since September 1965, primarily in Techniques Offices in Missile Support Department. Three of his papers in the field of Computer Programming have been presented at conventions of the American Society of Photogrammetry and four have been printed in the Photogrammetric Engineering magazine.