

Report of the Photography Division

THE ANNUAL REPORT of the Photography Division is largely a report of the individual committees. The following is a summary of their activities.

Aerial Photography Committee—William P. Tayman, Chairman, U.S. Geological Survey. Tayman reports that members of his committee also participated in the preparation of the "Standard Specifications for Aerial Photography" prepared by the Department of Agriculture (ASCS, Forest Service and Soil Conservation Service) and the U.S. Geological Survey. These specifications were finalized and have been in use since April 1976 by the Department of Agriculture. USGS is still deliberating on a few points in the specifications but in the near future the task should be complete and a nearly common set of aerial photography specifications will be a reality.

Tayman reports that Committee members are monitoring a joint study being conducted by the National Ocean Survey and the U.S. Geological Survey to determine what improvement in film quality might be achieved by the use of image motion compensation (IMC) cartographic cameras. Simultaneous photography was taken of resolving power charts placed on the roof of the Geological Survey National Center at Reston, Virginia. Present day f/4 lens cameras and an IMC camera were recently used with both high definition film and the old faithful Kodak 2402 film.

No conclusions or recommendations have been reached yet but much interest has been shown in the use of IMC photography.

Image Quality Committee—Ron Ondrejka, Chairman, ITEK Corporation. Based on a continuing review of the responses to the 1975 Image Quality Questionnaire and monitoring of the pertinent technical papers and discussions in Washington, Seattle and Helsinki during 1976, a small working group within the Committee has isolated three areas of concern to society organizations dealing with elements of graphic image quality. The first problem area is in the original photographic acquisition phase of the survey process, i.e., poor photographic exposure. Recently introduced automatic exposure meters are an attempt to deal with this problem and the results of operational use of these devices will be studied and reported on.

The second problem, expressed by a considerable number of organizations, appears

to be the lack of experienced and/or motivated photo lab personnel who understand quality control techniques and recognize good photographic quality. Other than proper training and adequate compensation a solution which seems to be growing in usage is contracted photoprocessing by specialized organizations.

The third problem and the one which the Committee is most active in pursuing is the ability to define and measure post-mission, post-delivery quality of the survey photography to insure that the cultural content of the resulting map products meet map user requirements. The problem, however, is more than technical and involves specifications and test techniques which are agreeable to both the buyer and seller of the photography. Various evaluation methods are currently under study at a number of Government agencies and progress is being monitored by the Committee.

A major activity of the Image Quality Committee during 1976 was to hold discussions with an active ad hoc photographic Image Quality group with Officers who are members of the Puget Sound Region. We intend to formally merge our interests and technical resources during 1977.

Color Photography Committee—A. E. Salerno, Chairman, U.S. Geological Survey. This committee continues to concentrate on keeping abreast of available equipment and the state-of-the-art in color photography. Towards this end chairman Salerno participates in an interesting and valuable forum. On an informal but regular basis he and several of his counterparts in other government agencies meet to discuss the photography field. They seek to share information on techniques and equipment and to avoid duplication in the various agencies.

Coherent Optics Committee—Dr. Robert Leighty, Chairman, Engineer Topographic Laboratories. This committee also continues to monitor the equipment and techniques in the coherent optics field. In our discussion with Dr. Leighty, he mentioned applications in medical imagery, optical viewing of gross image quality for preprogramming automated mapping systems and laser scanning of images for printing purposes. We also learned of his concern that ASP could be by-passed by the coherent optics field and its activities concentrated in some other professional society. He is anxious for more support and additional activity in this field.

We can very likely expect requests for approval of ASP sponsorship or co-sponsorship of appropriate functions in coherent optics.

Multispectral Committee—Avron Hecht, Chairman, Engineer Topographic Laboratories. Chairman Hecht recommends a sounding board format for the activities of this committee. He favors assembling panels of experts who in turn would each sponsor other speakers and discussions of appropriate topics. He feels this type of forum lends itself to candid and worthwhile discussions.

Space Photography Committee—Dr. Roy Welch, Chairman, University of Georgia. This committee has been inactive for several years but Dr. Welch has agreed to take the chairmanship long enough to reactivate the committee.

Underwater Committee

At the Board of Directors meeting at the semi-annual convention in Seattle, the consensus was that the Underwater Committee should definitely be continued. Since that time we have contacted Gomer McNeil, former committee chairman, and he urges similar action. Dr. Welch and I plan to meet with him at the convention and discuss this in greater detail.

Conclusion

In looking back, I find that I am disappointed in not having accomplished more of the goals set for us by President Loving. I remember that a year ago Mr. Dossi, in his annual report of this Division, challenged

members of the Society to choose a committee and become productively involved. I wish that just a few more members had accepted his challenge and joined us in the Photography Division where we would have welcomed additional energy and enthusiasm.

One area where we wanted to make better progress than we did was in reassessing our Division and all of its Committees to insure that we are pursuing clear goals in an efficient manner. We discussed this enough to be fairly certain that some changes should be made but the completion of this task will fall to the next administration. However, we do feel that any reorganization should not be carried out in isolation. We were very pleased at the opportunity to meet with the other Division Directors and Deputies at the semi-annual meeting in Seattle. We feel more of these discussions are in order at a time when we are considering realignment of the structure of our Divisions. These gatherings could be accomplished again at the Program Planning Committee meeting or possibly by separate meetings of Division officers. We believe that in light of the new name of the Society publication and of the trends in the profession itself, we should coordinate our changes on a Division basis.

The Division programs continue mostly through the efforts of committee chairmen and committee members. I thank all who gave that effort to the Photography Division this past year.

—A. N. Brew, Director



Photography Division meets at the Annual Convention.

Report of the Photogrammetric Surveys Division

Two meetings of the Photogrammetric Surveys Division were held during the past Society year: on September 29, 1976, during the Fall Convention; and on March 2, 1977 during the Spring Annual Convention. The September 1976 meeting was chaired by Dr. S. K. Ghosh, First Deputy Director of the Division, in the absence of Dr. H. M. Karara, the Director, who was in Stockholm, Sweden. The Second Deputy Director, Mr. A. K. Heywood, resigned because of health reasons; and Mr. F. R. Watts was elected on September 29 to succeed him. Because of continued inactivity over several years, the Mapping Committee was merged with the Charting Committee into a new Charting and Mapping Committee, effective February 27, 1977. Plain Mapping are being contemplated during the coming years. The Close-Range Photogrammetry Committee (Dr. J. Kobelin, Chairman) organized a workshop on Museum Applications at the Ohio State University, Columbus, Ohio on November 22, 1976. A U.S. branch of the International Committee on Architectural Photogrammetry (CIPA) has been started in November 1976 and will be administered by Dr. J. Kobelin. The Computational Photogrammetry Committee (Dr. R. Helmering, Chairman) is compiling a list of computer programs covering the field of photogrammetry, and is considering organizing a symposium on the production and applications of digital terrain models (DTM) in cooperation with the St. Louis Region of ASP in the near future. The Transportation and Engineering Surveys Committee (Mr. M. L. Keene, Chairman) completed a "Benchmark Bibliography" on color photography. A newsletter was started to foster greater exchange of information in the fields of activity of this committee. The Standards Committee (Mr. F. R. Watts, Chairman) is continuing to study standards problems in the photogrammetric instruments. Mr. W. T. Pryor,

27, 1977. Also effective February 27, 1977 the Extraterrestrial Applications Committee was deactivated on a temporary basis.

Following is a summary of the activities of each PSD Committee. The Cadastral Surveys Committee (Mr. M. E. Lafferty, Chairman) has completed a "Benchmark Bibliography." A draft for "Standards for Cadastral Surveying by Photogrammetry" has been prepared and is being reviewed by a number of selected experts. A session on Cadastral Surveys was organized by this committee at the 1976 Fall Convention in Seattle. The Charting and Mapping Committee (Dr. R. L. Ealum, Chairman) has organized a session during the 1977 Spring Annual Convention. Symposia on Photobathymetry and on Flood former Director of the Division, continued to represent the Division on the ASP Standards Committee. The First Deputy Director of the Division, Dr. S. K. Ghosh, serves automatically as Associate Editor of *Photogrammetric Engineering and Remote Sensing*. During the past Society year, 23 articles were received for review, 9 were accepted, 5 were rejected, and the rest are still in the review process. Five books were also reviewed.

A major activity of the Division was that of organizing and moderating technical sessions at the Fall Convention and the Spring Annual Convention. The Fall Convention included three sessions organized and chaired by the Division: a session on Close-Range Photogrammetry, a session on Cadastral Surveys, and a session on Orthophoto Systems and Automation (joint with the Photography Division). The Spring Annual Convention included three sessions organized and chaired by the Division: a session on Stereoplotting Instruments, a session on Computational Photogrammetry, and a session on Photogrammetric Techniques.

—H. M. Karara, Director



Members of the Photogrammetric Surveys Division meet during the Annual Convention.



Division Director Roger Hoffer conducts the meeting of the Remote Sensing and Interpretation Division at the Annual Convention.

Report of the Remote Sensing and Interpretation Division

The past year has been a busy one for the Remote Sensing and Interpretation Division, starting with official reorganization of the Division during the 1976 Annual Convention. As a result of this reorganization, the Division is now comprised of seven technical committees including the following:

(1) Acquisition Systems and Analysis Techniques, (2) Education and Interpretative Skills, (3) Engineering Applications, (4) Geography and Land Use, (5) Geological Sciences, (6) Hydrospheric Sciences (including oceanography, meteorology, and water resources), and (7) Plant Sciences (including forestry, range management, and agriculture).

As these committee titles indicate, the

thrust of the Remote Sensing and Interpretation Division continues to be oriented toward the applications of remote sensing technology. Following the reorganization, much of the Division activity was involved in staffing of the new committee structure and initiating a variety of activities within the various committees. Standing working groups are being established within some of the committees to provide a basis for many of the ongoing projects and activities.

In January 1975, the name of the official ASP Journal was changed to the *Journal of Photogrammetric Engineering and Remote Sensing*. This change in name has drawn considerable attention to the American Society of Photogrammetry as being the major professional society in America concerned

with remote sensing technology and its applications. The impact of this emphasis on remote sensing was seen throughout 1976, with a growing number of manuscripts being sent to ASP for review and consideration for publication in the Journal. During the 1976-1977 year, the publications committee asked the Remote Sensing and Interpretation Division to review 40 manuscripts of papers plus 3 books. Of the papers submitted for review, 13 were reviewed and accepted with minor revisions, 8 have been returned to authors for major revisions, one was rejected, and 18 are out for review at this time. Dr. Richie S. Williams, Jr. (Second Deputy Director during the past year) is to be commended for an outstanding job of monitoring this review process. I would also like to take this opportunity to thank the many individuals throughout the country who assisted Richie in the review process. The quality of the reviews received this year has generally been outstanding, and the quality of the articles being published in the Journal is improving as a result of the careful and critical reviews provided.

As usual, a number of excellent technical sessions were held at both the semi-annual and the annual ASP meeting during the past year. John Edwards of the Washington Department of Natural Resources did an excellent job in serving as the coordinator for the RS&I Division for the Fall Convention held in Seattle in September 1976. The RS&I Division was responsible for the following technical sessions: Land Use Information Systems (chaired by Dr. Philip Kelley), Forest and Agriculture Applications (chaired by Dr. Roger Hoffer), Space Applications (chaired by Mr. Rigdon Joosten), and Water and Environmental Engineering (chaired by Dr. Robin Welch). Many fine papers were presented and much interesting discussion was stimulated.

As First Deputy Director for the Division during the past year, Dr. George Rabchevsky did an outstanding job of coordinating the technical sessions for the Annual Convention in Washington D.C., which included RS&I technical sessions in the following areas: Geography and Land Use Applications (chaired by Dr. Ronald Shelton); Acquisition System and Analysis Techniques (chaired by Dr. George Rabchevsky); Engineering and Geological Applications (chaired by Dr. Thomas Lillesand); Acquisition Systems and Analysis Techniques (Part II) (chaired by Dr. Ralph Kiefer); and Plant and Hydrospheric Sciences Applications (chaired by Dr. Richard Driscoll).

In addition, many individuals within the RS&I Division were involved in coordinating, organizing, and participating in a number of Symposia, Seminars, and Workshops throughout the country which ASP and the RS&I Division of ASP were involved as co-sponsors. These included the following:

Sept. 28-29, 1976—"Remote Sensing for Land and Resource Management for the Southwest"; College Station Texas; sponsored by Texas A&M University in cooperation with ASP; coordinated by Dr. Robin Welch.

Oct. 25-29, 1976—"Pecora Symposium"; Sioux Falls, South Dakota, co-sponsored by USGS and ASP; coordinated by Dr. Robert McEwen.

Jan. 10-12, 1977—"Remote Sensing and Photointerpretation Workshop for Environmental Studies"; Orono, Maine; co-sponsored by the University of Maine and ASP; coordinated by Dr. Marshall Ashley.

Feb. 14-18, 1977—"Range Management Remote Sensing Workshop and Symposium"; Technical session held during the 1977 Annual Meeting of the Society for Range Management; Denver, Colorado; co-sponsored by the Society for Range Management and ASP; coordinated by Dr. Richard Driscoll.

Feb. 25, 1977—"Political and Social Aspects of Remote Sensing from Space." Technical session at the Annual Meeting of the American Association for the Advancement of Science; Denver, Colorado; sponsored by ASP; organized by Dr. George Rabchevsky.

In addition to those meetings, the following Symposia, Workshops, and Technical Meetings in which the RS&I Division is involved are being planned for the year ahead:

June 27-30, 1977—"Fourth Annual Symposium on Machine Processing of Remotely Sensed Data"; West Lafayette, Indiana; co-sponsored by ASP. (Four of the technical sessions are the responsibility of the RS&I Division of ASP); coordinated by Dr. Roger Hoffer.

Aug. 9-12, 1977—"Sixth Biennial Workshop on the 'Use of Color Aerial Photography in the Plant Sciences'; Fort Collins, Colorado. Sponsored by ASP. Coordinated by Dr. Richard Driscoll.

Feb. 14-16, 1978—"Symposium on Remote Sensing for Vegetation Damage Assessment"; Seattle, Washington. Co-sponsored by ASP. Coordinated by Dr. Peter Murtha.

Other activities in which the Division has been involved in this past year included the writing of several reports for the ISP meetings in Helsinki. The Division Directors have been involved in the development of written descriptions of the duties and responsibilities of the Director, First Deputy Director, and Second Deputy Director of the Remote Sensing and Interpretation Division. Written description of their duties had not been previously developed and were needed. Likewise, preliminary descriptions of the functions of the Technical Committees, and the duties of the Chairman, First and Second Deputy Chairmen of the committees were developed. It is anticipated that the development of this written information will provide a firm basis for a smoothly operating division in the years ahead. At the request of President Loving, the Division and Committees have started to develop a selected bibliography of outstanding articles concerning the various aspects of remote sensing technology and its applications. It is anticipated that this material will be reviewed and updated each year. Such material should prove valuable for a variety of ASP activities.

Meaningful activities and effective operation of the Technical Divisions within ASP is largely a function of the willingness of the membership to devote time and capabilities to the Society. There is always room for improvement in any voluntary organization,

but it is only through individual commitment to become involved in the function and operation of the organization that we can bring about the needed improvements. I therefore urge any member of ASP who is interested in the activities of the RS&I Division (or other Technical Divisions, Regions or Chapters) to contact the Directors or Committee Chairman and offer his assistance, suggestions, and constructive criticisms for improving the activities of the Society.

In summary, I believe the past year has been a productive one for the Remote Sensing and Interpretation Division of ASP. As in previous years, much of the activity was directed toward providing the opportunities for many stimulating technical papers and discussions involving many aspects of remote sensing technology. In addition, a number of significant changes in the organization and operation of the RS&I Division have been realized during the year. Many individuals and long hours were involved in these activities and I wish to thank each and every one of the individuals involved for their part. For me, it has been a particularly stimulating and worthwhile experience, and I very much appreciate having had the opportunity to serve ASP as Director of the RS&I Division during the past year.

—Roger M. Hoffer, Director

Report of the Committee on Education

The Committee's principal goal for this year has been attained—the publication of a special issue of Photogrammetric Engineering and Remote Sensing which emphasized Education. The March 1977 issue, contains a comprehensive survey on educational programs and materials and several illustrative articles.

The secondary objective of this year, now becomes a primary objective—a strengthening of the committee's structure and organization to better reflect the diverse educational resources and needs of the profession. This objective was retarded this year by the Chairman's inability to attend the Seattle Fall Convention, although almost twenty members of the Society have actively participated in the Committee's work. As the excellent work of the Committee on Education in the Remote Sensing and Interpreta-

tion Division has demonstrated, it would be very desirable for each division of the Society to organize a committee on education, or at least designate a minimum of three persons from the division as education liaison persons. This would provide a firm and representative structure for the general committee on education, with a membership composed of three deputies from each of the divisions plus a chairman appointed by the Society, and with the addition of such other members as are interested. This minimum general committee of ten, with the assistance of others, could then be a viable means for coordinating and stimulating educational developmental and communication.

Other desirable trends for concentrating future activities of the committee are:

1. Identifying core educational requirements for professional curriculums.

- 2. Encouraging continuing educational programs with particular reference to certification requirements and special applications—such as close range photogrammetry.
- 3. Encouraging the development of textbooks and other materials.
- 4. Encouragement and assistance in the

development of teaching instruments and devices.

- 5. Communication of the above developments by means of journal presentation, technical meetings and special meetings or symposia.

—James P. Latham, Chairman

Report of Professional Activities Committee

Generally, the Professional Activities Committee can report a moderately busy year in which further steps were taken toward the improvement of the stature of the photogrammetric profession.

The Committee was increased in numbers during this year by the appointment of additional members by President Hugh Loving. The increase in Committee size is necessary in order to balance the Committee distribution of membership in the various functional areas involved in photogrammetry; including private practice, government, retired individuals, education and industry.

The first class of Certified Photogrammetrists were so designated during the past year and they number a group 92 strong. Indications from the ASP headquarters office are that there are several hundred additional applicants and expressions of interest in this certification program in the process of being acted upon.

The Committee has been discussing the proposal to be made to the Board of Direction that a Committee on Standards of Practice and Specification be established by the American Society of Photogrammetry. This committee would function for the purpose of preparing a statement on standards of practice and generalized, but complete specifications, concerning photogrammetric engineering practice. The plan would be to widely distribute this information in a booklet to be prepared by the Society. This information booklet could be furnished to all practitioners in the field, all members who are interested, as well as widely distributed to potential users of the photogrammetric services throughout the country. Just how this might be handled needs to be discussed,

but it is possible that, for example, members in private practice could purchase a supply of these booklets at a modest cost each, for their distribution to clients and potential clients of their firm. If this practice were followed, it is believed that some of the expenses of such a program can be carried by those most directly concerned in this matter.

The Committee has also initiated a letter to the 50 State Registration Boards for Architects, Engineers and Surveyors to determine the exact status of photogrammetry as it is seen and practiced in the States. A further report on this most important matter will be made to the Board as soon as we hear from at least a representative group of the State Boards.

The current membership of the Professional Activities Committee is as follows; with the area of functional activity in photogrammetry indicated:

- Mr. Jon Beasley, P.E. state government
- instrument manufacture
- Mr. L. Richard Evans, P.E. private practice
- Professor S. K. Ghosh education
- Professor Rolland L. Hardy, P.E. education
- Mr. William T. Pryor, P.E. retired
- Mr. Al Quinn, P.E. private practice
- Mr. Jerry Robinson private practice
- federal government
- Mr. Morris Thompson, P.E. retired

The Committee stands ready to assist the Board of Direction and other committees of the Society on any matter related to professional consideration.

—L. Richard Evans, P. E. Chairman
(Certified Photogrammetrist)

Report of the Nomenclature Committee

During the year 1976-1977 the ASP Nomenclature Committee continued its efforts towards compiling a list of photogrammetric terms together with their definitions. A list of standard photogrammetric symbols is also being developed. This material is to become the substance of Chapter 19 of the Fourth Edition of the Manual of Photogrammetry, now in preparation.

The work of the committee has been broken into the six subcommittees listed below, headed by the following chairmen:

1. ASP Photography Division—Mr. Leonard Pimentel
2. ASP Photogrammetric Surveys Division—Mr. Wally Kerr
3. ASP Remote Sensing and Interpretation Division—Mr. David Landen
4. Computers—Mr. Frederick Sieker
5. At Large—Prof. Paul Wolf
6. Symbols—Prof. Terrence Keating

Each of the subcommittees completed an initial draft of terms related to their areas, and compiled their definitions. These have been transferred to 3-by-5 cards for filing. The definitions have been carefully screened, and a preliminary draft list typed. A draft list of photogrammetric symbols has also been prepared. These materials are now being circulated for review to nomenclature subcommittee chairmen, all chapter authors of the 4th Edition of the Manual of Photogrammetry, and other interested members of ASP. Reviewer's comments will be incorporated and final definitions and symbols adopted.

The committee appreciates the many helpful suggestions provided thus far by ASP members, and will welcome any additional contributions.

—Paul R. Wolf, Chairman



Editor-in-Chief Charles Theurer meets with the authors of the 4th Edition of the Manual of Photogrammetry.



The MOLDS Board of Directors meeting.