

AMERICAN SOCIETY OF PHOTOGRAMMETRY
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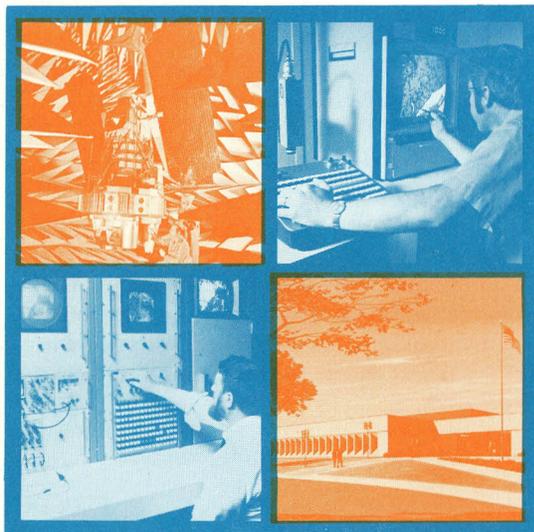


THE AMERICAN SOCIETY
OF
PHOTOGRAMMETRY

with cosponsorship by the
Institute of Electrical and Electronic Engineers
American Institute of Aeronautics and Astronautics
American Geological Institute Presents:

MANAGEMENT AND UTILIZATION OF REMOTE SENSING DATA

ADVANCE PROGRAM



SIoux FALLS, SOUTH DAKOTA
OCTOBER 29th – NOVEMBER 1st 1973

With cooperation from NASA, USGS, DOT,
USDA and other government agencies, ASCE,
educational institutions and private industry

Hosted by

The Dept. of Interior EROS Data Center,
South Dakota Chapter, St. Louis Region, ASP
The Sioux Falls Chamber of Commerce

Non-Profit
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ABOUT THE SYMPOSIUM

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Remote Sensing systems are no longer confined to laboratory experiments, breadboard models and "special installations." Fully operational systems fielded by government, industry, and educational institutions are providing usable data from space, high-altitude, low-altitude and underwater platforms.

The question now is: "HOW CAN WE EFFECTIVELY MANAGE AND UTILIZE THE MASS OF INFORMATION FLOWING IN FROM THESE SYSTEMS AT AN EVER-INCREASING RATE? One essential element is that system designers, planners, service organizations and user groups understand each other's problems and requirements.

This Symposium is designed to provide a basis for dialogue and exchange of information on such vital subject areas as: REMOTE SENSING ORGANIZATION; EDUCATIONAL AND ECONOMIC ASPECTS OF REMOTE SENSING; IMAGE DATA PROCESSING; STORAGE AND RETRIEVAL; AND NEW INTERPRETATION TECHNIQUES.

* * * * *

Your Symposium Committee cordially invites representatives from every segment of the Remote Sensing Community to attend and participate in what it believes will be an interesting and constructive program.

The Symposium Committee

Harold T. Rib, Chairman	FHA-DOT
Abraham Anson, Program Chairman	ASP
Raymond W. Fary, Jr.	USGS
Jerome A. Gockowski	USDA
Lawrence P. Jacobs	ASP
Robert B. McEwen	ASP-ASCE
George A. Rabchevsky	ASP
Thomas R. Riethof	AIAA
David H. Schaefer	IEEE
Merlyn Veren	State of South Dakota
Forrest H. Hicks	ASP
Linn Hoover	AGI

THE PROGRAM

Monday, October 29th, 1973

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PRE-SYMPOSIUM ACTIVITIES

8:30 A.M.

Registration – Desks will be open all day and remain open in the evening to accommodate early arrivals.

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SPECIAL TUTORIAL SESSIONS

9:30 - 11:00 A.M. and 1:00 - 4:00 P.M.

These sessions will feature selected tutorial briefings on the fundamentals of acquiring and processing remote sensing data. Their purpose is to orient the casual users of remote sensing data, and to enable them to more readily comprehend the information presented in the technical sessions. Subject areas and speakers will include:

"Remote Sensing Platforms" *Paul Fischman, General Electric Corporation*

"Remote Sensing Systems" *Ronald Ondrejka, ITEK Corporation*

"Digital Processing" *Michael Hurd, EARTHSAT Corporation*

"Photographic Processing" *Forrest Hicks, EARTHSAT Corporation*

4:15 - 6:30 P.M.

Tours of the new Department of Interior, EROS Data Center (Courtesy U.S. Geological Survey)

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EVENING PROGRAM

8:00 P.M. Dutch Treat Cocktail Party

THE PROGRAM (Cont'd)

Tuesday, 30 October 1973

9:00-12:00 OPENING SESSION – Welcome by the Mayor of Sioux Falls, the Governor of South Dakota, and a representative of the Interior Department; Opening of exhibits.

SESSION I (PLENARY)—IMPLICATIONS OF REMOTE SENSING IN RESOURCES MANAGEMENT, *Chairman, R. W. Fary, Jr. EROS Program, USGS*

Applications of Remote Sensing to Resources Management at the State Level, *C. J. Meier, Battelle Memorial Institute*

A Performance and Cost Analysis of Aircraft and Satellites for Operational Earth Resources Systems, *C. E. Cheeseman, Jr., GE*

Remote Sensing Applications in South Dakota Government Operations – A Plan for Progress, *D. Hood, S.D. State Planning Agency*

The Utilization of Remote Sensing from Space in the Legal Process, *I. M. Pikus, GE*

12:15 – LUNCHEON, KEYNOTE SPEAKER (to be announced)

1:30-4:30

SESSION II (PLENARY)—APPLICATION OF REMOTE SENSING TO RESOURCE MANAGEMENT, *Chairman, G. Rabchevsky, Terratek, Inc.*

Iceland: Preliminary Results of Geologic and Hydrologic Studies with ERTS-1 Imagery, *R. S. Williams, Jr. USGS*

An ERTS-1 Study of the Land Use and Geophysical Character of the Great Salt Lake Area, *W. A. Finch, Cal. State U.; A. Rango, NASA; V. V. Salomonson, NASA; and A. Smith, GE*

ERTS-1 Analysis of Wildland Resources Using Manual and Automatic Techniques, *P. F. Krumpke, D. T. Lauer and J. D. Nichols, U. of Cal., Berkeley*

Analyses and Applications of Five Cycles of ERTS-1 Imagery over L.A. County: Assessment of Data Utility for Urban Development and Regional Planning, *R. Economy, GE; J. McKnight, L.A. County; and S. Raje, GE*

Application of Satellites to Resources Survey in Developing Countries, *W. Drewes & C. Weiss, Int. Bank for Rec. & Dev.*

Environmental Change Patterns of Tokyo Megalopolis, Identified from ERTS-1 Imagery, *Y. Kaito and S. Murai, U. of Tokyo*

TOURS OF EROS DATA CENTER

EVENING PROGRAM – INFORMAL DISCUSSIONS SEMINAR

THE PROGRAM (Cont'd)

Wednesday, 31 October 1973

9:00 - 12:00

SESSION IIIA (CONCURRENT)—THE ROLE OF REMOTE SENSING IN RESOURCES MANAGEMENT AND PLANNING, *Chairman, W. Massa, Tennessee Valley Authority*

Remote Sensing Applications in Urban and Regional Planning, *A. L. Grey and F. V. Westerlund, U. of Wash.*

Some Applications of Comparative Urban Area Analyses Using Remote Sensing: Implied Requirements for a Multistage, Multidate, Monitoring System, *J. R. Wray, USGS*

Remote Sensing Programs in the Highway Field, *H. T. Rib, Fed. Hwy. Admin.*

Application of ERTS Data to Transportation System Planning for a Less Developed Region, *W. A. Guard, GE, and S. K. Gupta, U. of Penn.*

The ERTS Image Format as the Basis for A Map Series, *A. P. Colvocoresses, USGS*

9:00 - 12:00

SESSION IIIB (CONCURRENT)—HYDROLOGIC AND ENVIRONMENTAL APPLICATIONS, *Chairman, P. G. Teleki, Coastal Engineering Research Center*

Utilization of Remotely Sensed Data in the Management of Inland Wetlands, *V. Carter, USGS*

Location of Flowing Artesian Wells and Natural Springs Using Thermal Infrared Imagery, *D. G. Moore and V. I. Myers, S.D. State U.*

An Evaluation of Space Acquired Data as a Tool for Management of Wildlife Habitat in the State of Alaska, *W. J. Van Tries, Bur. Sport Fish. & Wildlife*

Use of Satellite Data for Mapping Snow Cover in Western U.S., *J. C. Barnes and C. L. Bowley, ERT, Inc.*

Hydrologic Studies in the Lake Ontario Basin Using High Altitude and ERTS-1 Imagery, *A. Falconer, Guelph U.*

Analysis of ERTS Relayed Water Resources Data in the Delaware River Basin, *R. W. Paulson, USGS*

9:00 - 12:00

SESSION IIIC (CONCURRENT)—DIGITAL TECHNIQUES, *Chairman F. C. Billingsley, Jet Propulsion Laboratory*

Evaluation of Digitally Corrected ERTS Imagery, *S. S. Rifman, TRW*

THE PROGRAM (Cont'd)

Wednesday, 31 October 1973 (Cont)

Semi-Automated System for Plotting and Compiling Categories of Remote Sensing Imagery, *G. E. Gnauck, D. J. Hurd and R. M. Kroeck, ESL Inc.*

Application and Evaluation of Operational Un-supervised Multi-Spectral Classification Techniques for Earth Resources Data, *R. E. Cummings, NASA/MSFC*

Automatic Information Extraction for Land Use and Agricultural Applications, *D.T. Thomas, NASA/MSFC*

Application of Fourier Analysis to Multispectral/Spatial Recognition, *R.J. Horning, E.L. Maxwell and J. A. Smith, Col. St. U.*

Some Digital Techniques for Enhancing ERTS Imagery, *F. C. Billingsley, JPL*

12:00 - 1:30 LUNCH

1:30 - 4:30

SESSION IVA (CONCURRENT)—GEOLOGIC AND ENGINEERING APPLICATIONS, *Chairman, G. Rabchevsky, Terratek, Inc.*

Engineering Analysis of ERTS Data for Southeast Asian Agriculture, *H. L. Heydt, GE; and A. J. McNair, Cornell U.*

ERTS Application to Mineral Exploration in Sonora, Mexico, *R. Pascucci, Raytheon; G. Rabchevsky, Terratek; and A. Stancioff, Consultant*

Analysis of Geologic Ground Patterns on ERTS-1 Imagery of Missouri, *W.H. Allen, Mo. Geo. Survey*

Spectral Geological Content of ERTS-1 Imagery Over a Variety of Geological Terrains in New York State, *Y. W. Isachsen, N.Y. Geo. Survey*

Quantification of the Luminescence Intensity of Natural Materials, *W.R. Hemphill and R.D. Watson, USGS*

Spectral Ratio Imaging Methods for Geological Remote Sensing from Aircraft and Satellite, *R. K. Vincent, ERIM*

1:30 - 4:30

SESSION IVB (CONCURRENT)—NON-DIGITAL AND MAN-ASSISTED TECHNIQUES, *Chairman, D. Lowe, Environmental Research Institute of Mich.*

GRIDS Works for DNR, *R. A. Harding, Dept. Nat. Res., Washington*

A Peripheral Change Detector, *H. A. Humiston and G. E. Tisdale, Westinghouse*

SADE-A Remote Sensing System, *J.E. Grimaldi, F. A. Waltz, RSI, S.D. State U.*

(Over)

HOTEL RESERVATION FORM

"SYMPOSIUM ON MANAGEMENT AND UTILIZATION OF REMOTE SENSING DATA"

Please reserve and confirm room accommodations as indicated below:

Single Room(s): _____ Double Room(s)
Approximate Rate \$14.00 Single, \$19.00 Double.

Name _____

Address _____

City _____ State _____ Zip _____

Organization _____

Spouse's Name if accompanying _____

Will Arrive _____ at _____
(day) (date)

Will Depart _____

Do you plan to rent a car? _____

Mail this form to address shown on other side of this form

- REGISTRATION FORM -

"SYMPOSIUM ON MANAGEMENT AND UTILIZATION OF REMOTE SENSING DATA"

OCT. 29th - NOV. 2nd 1973 - - - SIOUX FALLS, S.D.

Name _____ Please Print or Type

Title or Position _____

Organization _____

Mailing Address _____

City & State _____ Zip _____

*Address at Symposium _____ Room No. _____
(To be filled in at Registration)

Will be accompanied by _____

Please Complete both sides and mail with check payable to:

AMERICAN SOCIETY OF PHOTOGRAMMETRY
105 NORTH VIRGINIA AVENUE
FALLS CHURCH, VIRGINIA 22046

FEES:

My check in the amount of \$_____ is enclosed to cover the following items:

REGISTRATION:

ASP

MEMBER AIAA \$ 30.00 NON-MEMBER \$ 40.00
 MEMBER IEEE AGI

STUDENT (8 or more credit hours) \$ 5.00

Joining ASP Prior to Symposium:

FULL YEAR \$ 15.00 (Includes all 1973 issues of Journal)

___ Extra Copies of Proceedings (\$5.00 per copy)

NOTE: Refund requests will be honored if received prior to 20 October, 1973.

Detach this part of the form and mail to:

SIoux FALLS CHAMBER OF COMMERCE

ATTN: CONVENTION BUREAU

P. O. BOX 1425

SIoux FALLS, SOUTH DAKOTA 57101

NOTE. Reservations must be received by 10 October 1973.

THE PROGRAM (Cont'd)

Wednesday, 31 October 1973 (Cont)

Automated Thematic Mapping and Change Detection of ERTS-1 Images, *N. Gramenopolous, ITEK*

Combining Human and Computer Interpretation Capabilities to Analyze ERTS Imagery, *J. D. Nichols and W.M. Senkus, U. of Cal. Berkeley*

Image Processing and Enhancement Applied to ERTS Photography: A Case Study of the Bay of Carpenteria. *T.W. White, Photoscience Inc.; P.C. Teleki; CERC; and G.A. Rabchevsky, Terratek.*

1:30 - 4:30

SESSION IVC (CONCURRENT)—REMOTE SENSOR DATA MANAGEMENT AND TRAINING IN APPLICATIONS, *Chairman, Stanley C. Freden, NASA/GSFC*

Throughput Model of EROS Data Center, *C. L. Hensel, GE*

Orthophotography as a Management Tool, *L.W. Aggers, Oregon St. For. Dept.*

Education in the Application of Remote Sensing to Resource and Environmental Investigations, *R. G. Reeves, USGS*

Geodesy, Photogrammetry, Photointerpretation and Remote Sensing—Getting it All Together in Mapping Education, *R. L. Hardy, Iowa St. U. and J. V. Taranik, Iowa Geo. Survey*

The Need for More Information and Less Data, *H. M. Gurk, RCA/AED*

A Practical Indexing and Retrieval System for Remote Sensing Data, *R. S. Singh and J.P. Scherz, U. of Wisconsin*

EVENING - COCKTAIL PARTY AND BANQUET

Thursday, 1 November 1973

8:00 - 11:00

SESSION VA (CONCURRENT)—FUTURE SENSORS AND INFORMATION HANDLING SYSTEMS, *Chairman, D. Schaefer, NASA/GSFC*

TSE Computers, *J. Strong III, NASA/GSFC*

Advanced Solid State Sensors for Remote Sensing from Satellite, *L.L. Thompson, NASA/GSFC and R. Tracy, Westinghouse*

Two-Dimensional Interpolative Data Compressor, *M. Hecht and S. Henry, RCA/AED*

Geometric Correction-Constant Resolution Compressor, *T. Altman, J. Dank and M. Hecht, RCA/AED*

ERTS Recording Systems: A Better Way, *C. Horton, RCA/Rec. System*

THE PROGRAM (Cont'd)

Thursday, 1 November 1973 (Cont)

8:00 - 11:00

SESSION VB — AGRICULTURAL AND FORESTRY APPLICATIONS, *Chairman, D. Smith, Stephen F. Austin University*

Estimating Losses Caused by the Douglas Fir Beetle in Northern Idaho, *W.E. Bousfield, USDA*

Operational Uses of Satellite Imagery in Agriculture, *A.S. Benson and W. C. Draeger, U. of Cal. Berkeley*

Critical Land Resources Inventory Using ERTS Data, *R.W. Kiefer, A.H. Miller and B.J. Niemann, U. of Wisconsin*

Remote Sensing Applications to Northern Great Plains Resources Management, *M. P. Meyer, U. of Minn.*

Applications of ERTS-1 Data to Landscape Change in Eastern Tennessee, *J. B. Rehder, U. of Tenn.*

Identification of Soil Associations In South Dakota on ERTS-1 Imagery, *F. C. Westin, S.D. State U.*

11:00 — EXHIBITS CLOSE

11:15 — INTERSOCIETY LUNCHEON

12:30 - 3:30

SESSION VI (PLENARY) EARTH RESOURCE SENSING OF THE FUTURE, *Chairman, T. Riethof, GE Space Division*

Sensing Requirements (Data):

Agriculture, Forestry & Range Resources, *M.E. Baumgardner, LARS/Purdue*

Mineral Resources, Geological Structure, Landform Survey, Mapping, *P. Lowman and N. Short, NASA/GSFC*

Oceans, Streams and Water Resources, *J. Sherman III, NOAA/NESC*

Remote Sensors: Prospects and Limitations, *J. Lehman, NASA/HQS*

Platforms of the Future, *D. Keller, GE Space Div.*

CLOSING REMARKS — SYMPOSIUM DIRECTOR

TOUR OF EROS DATA CENTER

GENERAL INFORMATION

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REGISTRATION. Advanced Registration is strongly recommended as attendance will be limited to normal meeting-room capacity. Later applicants are advised to contact ASP Headquarters (703) 534-6617 prior to travelling to the Symposium area. Use attached form for advanced registration.

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FACILITIES. The Holiday Inn (downtown) Sioux Falls, S.D., has been designated as the host hotel for the Symposium. Unless otherwise noted, all technical sessions and social events will be held at that location. Room accommodations may be made using the attached form. Room assignments will be made at the host hotel until filled and thereafter at nearby hotels.

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EXHIBITS. Graphic and hardware exhibits are planned in conjunction with the Symposium. Exhibits will feature sensors and sensor systems, film and processing equipment, image data reduction, storage and retrieval systems, color separation image enhancement and manual and automatic interpretation equipment. For information on exhibits, contact ASP Headquarters, Attn: "Exhibits Chairman".

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PROCEEDINGS. Every effort will be made to have bound copies of the Proceedings available at the time attendees register at the Symposium. Each person attending will receive one copy of the Proceedings as part of the registration fee, and may order additional copies at \$5.00 per copy. Post symposium prices will be \$5.00 to members of ASP and co-sponsoring organizations – others \$10.00.

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TOURS. EROS Data Center tours have been scheduled as noted in the program. Trips to nearby points of interest such as the Remote Sensing Institute, South Dakota State University are also being considered. Persons registering as non-members will be credited \$10.00 toward membership in ASP. Non-members may also join at time of registration and attend seminar at lower rate.